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PERSONAL.

Mr. George H. Cox has been appointed Park Commissioner of Cambridge, Mass.

Mr. Sumner Thomas has been appointed Street Commissioner of Glens Falls, N. Y.

Mr. Robert T. Danner has been appointed Superintendent of Water-Works of Frederick, Md.

Mr. Clark Smith has been appointed Superintendent of Water-Works of Fort Collins, Colo.

Mr. Joseph M. Byrne has been elected a Board of Works Commissioner of Newark, N. J.

Mr. George W. Keller has been elected President of the Board of Water-Works Trustees of Wooster.

Mr. T. W. Bauer has been appointed Secretary to the Board of Water-Works Trustees of Sandusky, O.

Mr. Theodore C. Hewson has been elected President of the Board of Works of Newark, N. J., to succeed Mr. William Stainsby.

Mr. Walter McCulloh, M. Am. Soc. C. E., has removed his office from 7 Crick Building to the Arcade Building, Niagara Falls, N. Y.

Mr. Walter Dixon, electrical engineer, of Glasgow, Scotland, is on a tour of inspection of the electrical power plants of the United States.

Mr. I. Fujioka, manufacturer of electrical apparatus, of Tokyo, Japan, is visiting this country on a tour of inspection of electrical machinery.

Mr. A. W. Trotter, M. Am. Soc. C. E., has removed his office in New York city from the Havemeyer Building to the Empire Building, No. 71 Broadway.

Messrs. Ford, Bacon & Davis, engineers, have removed their New York office from the St. Paul Bldg., 220 Broadway, to the Singer Bldg., 149 Broadway.

Mr. H. O. Nourse, Chief Clerk of the Water Department of Chicago, Ill., has been appointed Superintendent of the Water Office, to succeed Mr. Felix Lang, resigned.

Messrs. J. S. Van Horne, M. Am. Soc. C. E., and P. Warren Allen, Jun. Am. Soc. C. E., have removed their offices from 26 Cortlandt St. to 71 Broadway, New York city.

Mr. Eugene Washington Stone, M. Am. Soc. C. E., has resigned as Engineer of the Koken Iron Works, St. Louis, Mo., and is now located at 56 West 72d St., New York city.

Mr. P. J. Crossen, a member of the Board of Water-Works Trustees of Sandusky, O., has resigned and has been appointed Superintendent of Street Work of that city.

Mr. Austin Lord Bowman, M. Am. Soc. C. E., Civil and Consulting Engineer, has removed his office from the Havemeyer Bldg., New York city, to the new Empire Bldg., 71 Broadway.

Mr. William S. Turner, M. Am. Inst. E. E., consulting and constructing electrical and mechanical engineer, has removed his office from 1 Nassau St. to 141 Broadway, New York city.

Prof. Massashi Namba, Professor of Electrical Engineering in the University of Kioto, Japan, is on a visit to the United States for the purpose of studying the latest electrical developments.

Mr. G. R. Joughins, Superintendent of Motive Power of the Norfolk & Southern R. R., with headquarters at Berkley, Va., has been appointed Mechanical Superintendent of the government railways of Canada.

Mr. F. S. Higbid, formerly Roadmaster of the New York Division and Assistant Engineer of the Erie R. R., has resigned to accept a position as Assistant Engineer of the Panama R. R., with headquarters in Panama, Colombia.

Mr. Perry Lawton, Assoc. M. Am. Soc. C. E., has opened an office as a civil engineer in the Savings Bank Bldg., Quincy, Mass. He is also a member of the Boston Society of Civil Engineers and of the New England Water Works Association.

Messrs. Nagle & Ball, consulting mechanical engineers, have removed their offices to the New York Life Bldg., Chicago. They are at present the consulting engineers for the new electric lighting plant under construction at Grand Rapids, Mich.

Mr. S. Potts, Jr., M. Am. Soc. M. E., who for many years has been the Mechanical Engineer for the Yerkes System of street railways in Chicago, has recently resigned his position to engage in business for himself, and will locate in New York city.

Mr. William Barclay Parsons, M. Am. Soc. C. E., consulting engineer, with offices at 22 William St., New York city, and Chief Engineer of the Rapid Transit Commission of that city, has been commissioned Chief of Engineers on the staff of Gov. Black, of New York.

Prof. William A. Pratt, of Delaware College, and President of the Street and Sewer Department of Wilmington, Del., has offered to the United States Government to raise a full corps of engineers for service in the war against Spain. The corps will be officered by practical and experienced engineers, and the rank and file will be composed of railway bridge builders, carpenters, machinists and other mechanics.

Mr. A. Tropenas, inventor of the Tropenas steel process, a modification of the Bessemer process, whose coming to this country was noted in our issue of April 21, has now arrived and will start a Bessemer plant on his system at the works of the Driggs-Seabury Gun and Ammunition Co., Derby, Conn. Mr. Tropenas' headquarters in New York will be with Messrs. Powell & Colne, Bowling Green Offices, 11 Broadway.

Messrs. Frank Boggs, of Pennsylvania; C. S. Smith, of Illinois; W. W. Worten, of North Carolina; Lytle Brown, of Tennessee; Robt. D. Kerr, of West Virginia; E. I. Brown, of Georgia, and A. A. Fryes, of Oregon, have been commissioned as Second Lieutenants in the Engineer Corps of the United States Army. They are the seven highest graduates of the U. S. Military Academy this year, and have been ordered to duty at once at Willet's Point, N. Y.

The court martial to try Civil Engineer A. G. Menocal, M. Am. Soc. C. E., U. S. Navy, on charges growing out of the failure of the dry dock in the New York Navy Yard, Brooklyn, has been reorganized on account of the necessity for giving sea duty to all the active officers of the Navy, and will consist of Rear-Admiral A. E. K. Benham, retired; Capt. Edwin Shepard, Capt. H. Picking, retired; Capt. A. E. Reid, retired; Capt. Yates Sterling, Capt. Thos. Nelson, retired; Commander G. R. Durran, retired, and Commander W. B. Newman, retired.

The Maryland Geological Survey has been constituted as follows: Mr. William Bullock Clark, State Geologist and Superintendent of Survey; Mr. Edward B. Mathews, Assistant State Geologist and Chief of Division of Geology of the Piedmont Plateau; Mr. Charles S. Prosser, Chief of Division of Geology of the Appalachian Region; Mr. George B. Shattuck, Chief of Division of Geology of the Costal Plain; Mr. Harry Fielding Reid, Chief of Division of Highways, and Mr. L. A. Bauer, Chief of the Division of Terrestrial Magnetism. Mr. A. N. Johnson, formerly a road engineer on the Massachusetts Highway Commission, has been appointed Road Expert in the Division of Highways.

Mr. George W. Vanderbilt, son of the late William H. Vanderbilt, is to be married, June 1, to Miss Edith Stuyvesant Dresser, daughter of the late Bvt. Major George W. Dresser, U. S. A. Major Dresser, who died at Newport, in 1883, was a Member of the American Society of Civil Engineers; and, having resigned from the Army in 1865, he practiced civil engineering in the neighborhood of New York city until his death. From 1870 to 1873 he was Assistant Engineer of the Department of Public Works, in New York; and from 1875 until his death he was the Editor of the "American Gas-Light Journal." Major Dresser was well known to many of the older members of the American Society of Civil Engineers.

OBITUARY.

Mr. Joseph Darragh, for 22 years Chief Engineer of the Isabella Furnace Co., Sharpsburg, Pa., died April 27, aged 76.

Mr. G. R. Cook, formerly Superintendent of Parks of Cambridge, Mass., died in Salem, Mass., May 2, aged 37. He was born in Pawtucket, R. I., and was at one time an editor on the Cambridge (Mass.) "Press." In 1893 he was city editor of the Cambridge "Tribune."

Mr. Joseph C. Turk, C. E., has been appointed General Agent and Resident Engineer for the Union Bridge Co., with headquarters at Key West, Fla., to superintend the construction of the two large steel marine piers and coaling stations at Dry Tortugas and Key West, the contracts for which were recently awarded to this company, as noted in our recent issues.

Mr. Frederick Bernhard Otto Baensch, the Engineer of the North Sea and Baltic Ship Canal, died on April 8. Mr. Baensch was born in Zeitz, Germany, June 6, 1825, and was educated as a civil engineer in the employ of the Prussian government. He was first engaged in bridge construction, over the Rhine and at Liegnitz; and later he built the harbors at Stolpmuende, at Ruegenwalde and at Colberg. His successful efforts in maintaining the dikes along the Baltic coast were especially commended by the government, and, in 1871, he was attached to the Ministry of Public Works, and was still connected with it at the time of his death. During this time he designed and built the rectification works of the Rivers Elbe and Rhine, and designed the Main River Canal, and the extensive dikes and harbor works in Schleswig-Holstein. In 1881 he reported upon the project for a North Sea and Baltic ship canal, and was later made its chief engineer. He completed this difficult work in a manner which won for him the praise of his government and the approval of engineers throughout the world.

Maj. William Dransfield, railway contractor, of Manchester and Liverpool, England, died April 14, at Harrogate, aged 70. About 50 years ago he joined the late firm of Geo. Thompson & Co., railway and dock contractors, and was the principal manager of the firm until 1874. While in this capacity he built, among other important works, a portion of the Birkenhead Docks, the North Docks branch of the Lancaster & Yorkshire Ry., the Edge Hill and Bootle branch, the extension of Lime St. station, the Huyton & St. Helen's Ry., and numerous works of the London & Northwestern, the Great Eastern, the Lancashire & Yorkshire and the London & Southwestern Rys. In 1874 he joined Mr. Arthur H. Holme, of the present firm of Holme & King, and with him carried out heavy works on the Lancashire & Yorkshire Ry. Later he formed a partnership with Mr. James Thompson and Mr. William Smith under the firm name of Dransfield, Thompson & Holme, and afterwards left this firm to establish that of Dransfield & Smith. In the past five years Mr. Dransfield has done considerable work in the neighborhood of Manchester in widening the Lancashire & Yorkshire Ry.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

CHICAGO ELECTRICAL ASSOCIATION.
May 6. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.
May 7. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF KANSAS CITY.
May 9. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

LOUISIANA ENGINEERING SOCIETY.
May 9. Secy., J. F. Coleman, 712 Union St., New Orleans, La.

RAILWAY SIGNALING CLUB.
May 10. Secy., Earl M. Seitz, Signal Engr., C. & N. W. Ry., Chicago, Ill.

DENVER SOCIETY OF CIVIL ENGINEERS.
May 10. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.

NORTHWEST RAILWAY CLUB.
May 10. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.

NEW ENGLAND RAILROAD CLUB.
May 11. Secy., Edward L. Janes, P. O. Box 1158, Boston, Mass.

ENGINEERING ASSOCIATION OF THE SOUTH.
May 12. Nashville, Tenn. Secy., C. B. Wilson, Nashville, Tenn.

CANADIAN SOCIETY OF CIVIL ENGINEERS.
May 12. Secy., C. A. McNab, 112 Mansfield St., Montreal, Can.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
May 12. Secy., Wm. H. Searles, Case Library Bldg., Cleveland, O.

BROOKLYN ENGINEERS' CLUB.
May 12. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.

CENTRAL RAILWAY CLUB.
May 13 Buffalo, N. Y. Secy., H. D. Vought, 114 Fifth Ave., New York city.

ST. LOUIS RAILWAY CLUB.
May 13. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

MONTANA SOCIETY OF ENGINEERS.
May 14. Secy., Albert S. Hovey, Helena, Mont.

INDIANAPOLIS ENGINEERING CLUB.
May 14. Secy., Edson F. Folsom, Indianapolis, Ind.

TECHNICAL CLUB OF OMAHA.
May 16. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
May 16. Secy., H. E. Smith, 1620 S. E. 4th St., Minneapolis, Minn.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
May 16. Secy., Jas. K. Zollinger, 16 Norton Bldg., Louisville, Ky.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.
May 17. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

ILLINOIS STREET RAILWAY ASSOCIATION.
May 18. Annual meeting. Secy., C. K. Minary, Springfield City R. R., Springfield, Ill.

WESTERN RAILWAY CLUB.
May 18. Secy., F. M. Whyte, 225 Dearborn St, Chicago, Ill.

BOSTON SOCIETY OF CIVIL ENGINEERS.
May 18. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
May 18. Annual meeting. Secy., A. Sorge, Jr., 1020 Monadnock Block, Chicago, Ill.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
May 18. Secy., Frank H. Olmstead, Los Angeles, Cal.

ENGINEERS' CLUB OF ST. LOUIS.
May 18. Secy., Richard McCulloch, St. Louis, Mo.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
May 18. Secy., C. W. Hunt, 220 West 57th St., New York city.

WESTERN SOCIETY OF ENGINEERS.
May 18. "Gaging of Streams," Wm. G. Price, and "The Use of Coke Breeze in Sewage Purification," John W. Alvord. Secy, N. L. Litten, Monadnock Clock, Chicago, Ill.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
May 19. Secy., F. A. Charpiot, Macon, Ga.

ENGINEERS' CLUB OF CINCINNATI.
May 19. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

NEW YORK RAILWAY CLUB.
May 19. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

ENGINEERS' CLUB OF COLUMBUS.
May 21. Secy., M. S. Hopkins, 14½ N. High St., Columbus, O.

AMERICAN INSTITUTE ELECTRICAL ENGINEERS.
May 25. Secy., R. W. Pope, 26 Courtlandt St., New York city.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
May 30, June 4. Spring meeting, Niagara Falls, N. Y. Secy., Prof. F. R. Hutton, 12 W. 31st St., New York city.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
June 7-9. Annual meeting, Chicago, Ill. Secy., George F. Porter, 136 Liberty St., New York city.
AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 7-10. Annual meeting, Cincinnati, O. Secy., John A. Penton, Buhl Block, Detroit, Mich.
OHIO STREET RAILWAY ASSOCIATION.
June 8. Annual meeting, Columbus, O. Secy., Frank J. J. Sloat, Akron, O.
AMERICAN WATER-WORKS ASSOCIATION.
June 14-16. Annual meeting, Buffalo, N. Y. Secy., Peter Milne, 95 William St., New York city.
MASTER CAR BUILDERS' ASSOCIATION.
June 15-17. Annual meeting, Saratoga, N. Y. Secy., Jno. W. Cloud, 974 Rookery, Chicago, Ill.
AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 20-22. Annual meeting, Saratoga, N. Y. Secy., John W. Cloud, 974 Rookery, Chicago, Ill.

DETROIT ENGINEERING SOCIETY.—The annual meeting of this society was held at the Hotel Ste. Claire on April 30. The following officers were elected for 1898: Pres., Geo. Y. Wisner; First Vice-Pres., Wm. J. Keep; Second Vice-Pres., Alex. Dow; Secy., Gardner S. Williams; Treas., T. H. Hinchman.

CIVIL ENGINEERS' CLUB OF CLEVELAND.—At the meeting held April 26, Capt. Louis J. Germain lectured on the Des Moines River improvements. It was maintained that it was the office of the real engineer to exercise his own genius in contending with emergencies, as well as to follow precedents in the routine of business.

Wm. H. Searles, Secy.

ENGINEERS' CLUB OF CINCINNATI.—At the meeting of this club held April 21, Mr. A. O. Elzner read several short papers in reply to questions on the following subjects:

"Amount of Compressibility of Soils," G. Bouscaren; "Timber Cribbing on Pile Foundations," Bert L. Baldwin; "Impurities in Water to be Used for Cement Mortar," W. B. Ruggles; "Draining Vaults for Dwelling Houses in Suburbs," Thos. B. Punshon. No action was taken upon the question of affiliating with the Association of Engineering Societies. J. F. Wilson, Secy.

AMERICAN FOUNDRYMEN'S ASSOCIATION.—The 3d annual convention of this association is scheduled to begin June 7 at the Grand Hotel, Cincinnati, O. The session will continue until the 10th, inclusive, during which time the following papers will be read:

"A Modern Foundry," A. W. Walker; "The Micro-Construction of Iron and Steel," S. S. Knight; "The Adoption of a Standard System of Test Bars for Cast Iron," R. G. G. Moldenke; "A Talk on Brass Founding," Chas. Vickers; "Manganese in Cast Iron," Guy R. Johnson; "The Overhead Trolley Track," H. M. Ramp; "Necessity of Well Mixed Furnace Casts and True Reports of Analysis," Thos. D. West; "The Manufacture of Steel Castings," Stewart Johnson; "A Test for Determining the Hardness of Cast Iron," C. A. Bauer.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—The 124th regular meeting of the Institute was held in New York city on April 27. A paper by Prof. W. E. Goldsborough, of Perdue University, entitled "An Economy Test of a Central Station," was read by title only, owing to the absence of the author. A brief abstract of this is given elsewhere in this issue. Mr. C. J. Reed followed, reading a paper entitled "A Novel Form of Thermo-Electric Battery." This was a description of a battery using a fused mass of caustic potash or soda and two steel rods as electrodes. It was claimed that as one rod had a smaller section than the other, and consequently became hotter, an electromotive force was produced. The paper also described a series of experiments with different materials employing, however, the same principle.

ENGINEERS' CLUB OF PHILADELPHIA.—At the meeting of this club, held on April 16, Mr. J. W. Ledoux presented the first paper of the evening on "The Deep Well Pumping Plant at Waukesha, Wis.," in which the details of the water-works plant at this place was discussed as they were in February, 1897. This plant supplied an average of 723,000 gallons per day from three artesian wells located at the corners of a triangle having sides 50, 70 and 90 ft., the depth of two wells being 1,000 ft. and the third 1,500 ft., all being furnished with 6-in. drop pipes to the depth of 300 ft. At the center of the triangle was a cylindrical brick-lined reservoir 25 ft. deep by 27 ft. in diameter. The pumping station contained boilers, engines, pumps and air compressors. The coal consumption at that time was 12,000 lbs. per 24 hours. To reduce expenses, two more wells 10 ft. apart were drilled, and two deep well pumps, manufactured under patents of E. E. Johnson (Eng. News, Jan. 20, 1898) were installed. These were guaranteed to give an unusually high efficiency. In this way operating expenses were reduced and a duplicate plant obtained. Later, Mr. Wilfred Lewis explained the difficulty of measuring the inertia of moving machinery, and described an instrument devised by himself for this purpose. It consists of a curved tube filled with water except for a small bubble which moves backward and forward, and a graduated scale besides the tube for measuring the amount of movement.

THE NATIONAL ASSOCIATION OF MANUFACTURERS OF NON-BESSEMER IRON.—This association is the outcome of a meeting held at the Waldorf Hotel, New York city, on April 22-23, in response to a call authorized by the Southern Pig Iron and the Eastern Pig Iron Associations, to consider the practicability of an organization to co-operate among the different producing districts. The preliminary work consisted in the formation of local organizations, in which about 37 companies were represented.

Two representatives from each district were appointed to form a committee on permanent organization, on representation and on plan of procedure. The name given above was adopted, and it was stated that the object of the association "shall be the collection and distribution of all statistics bearing upon the production, sale, shipment and consumption of non-Bessemer pig iron, and for the prompt distribution among the members of the association of this information, and also for such other objects as the association may deem proper from time to time."

The general plan finally adopted was that the votes would be on a basis of number of stacks and output, each stack entitling the holder to a vote, and each 10,000 tons monthly output also adding a vote. It is likely that a secretary will be employed to collect daily statistics, such as production, sales and shipments, and it is understood that the position has been offered to Mr. John Birkinbine, of Philadelphia.

An Executive Committee, holding monthly meetings and composed of two elected delegates from each district, will manage the association. Operating expenses will be defrayed from a fund raised by an assessment of 10 cts. per ton on the best monthly output of the last six months. In the future a monthly assessment of 10 cts. per ton will be made, from which the Executive Committee will expend such amount as it thinks necessary to promote the best interests of the trade. The plan as outlined will be put in operation provided furnace companies aggregating 225,000 tons monthly output will join the association on or before May 20.

NEW PUBLICATIONS.

LITERARY MAGAZINES.—In the April "Fortnightly Review" we find a paper on "The Maine Disaster and After," in which the author displays a sublime ignorance of the United States that would be amusing if his topic were a less serious one. We need only remark that he considers Spain's hope of success in a war with the United States would be to foment internal dissensions in this country which would cause it to split up. To quote verbatim:

> A reverse at the hands of Spain would mean the splitting up of the United States into two, if not three, independent republics. The East hates the West and the South hates both, and many are the men biding their time.

Comment on such a statement is superfluous, in these columns at least. We only wonder that the editor of the "Fortnightly" should give space in his columns to the work of so ill-informed a writer. Other articles in the same magazine which deserve mention here discuss British trade conditions in China and the clash of French and British colonizing interests in the Niger.

In the "Nineteenth Century" we find a most valuable article on "The Latest Reconstrucion of the Navy," by Sir Wm. H. White, Director of Naval Construction, which should be of interest just now when naval matters are of such absorbing interest here. Mr. A. S. Hurd writes on "British Ships in Foreign Navies," and advances the idea that should England become involved in a naval war with a first-rate power, the ships she has sold to foreign nations might prove most unwelcome aids to the enemy.

In "The Contemporary Review" we find an article on the "Cycle Industry" in Great Britain. Summed up in a nutshell, the English bicycle manufacturers have sold out their plants to hugely over-capitalized stock companies on the strength of the profits of 1895 and 1896. The result is that British bicycle building concerns are keeping up their prices in the attempt to pay dividends on enormously watered stock, and the product of the small English manufacturers and the well-made American machines are furnished at a lower price, and are taking the trade.

In the May "Popular Science Monthly" Mr. Worthington C. Ford continues his discussion of "The Question of Wheat," which we noticed last month. He shows that in normal seasons the four countries of Europe which produce a surplus of wheat (Russia, Hungary, Roumania and Bulgaria) can export about 75,000,000 bushels, which about supplies the needs of Belgium, Switzerland, and the Scandinavian countries, leaving Great Britain, France, Germany, Austria and Italy, whose combined demands over and above their own production amount to 430,700,000 bushels per annum, to be supplied from abroad. Except for the small contribution of India, nearly all this enormous demand must be supplied from the vast plains in the temperate regions of North and South America. "The West Indian Bridge Between North and South America" is the title of a paper by Mr. J. W. Spencer, in which the strange conformation of the ocean bottom in the vicinity of the West Indies is explained. Mr. Geo. J. Varney contributes a summary of the progress of kite-flying achievements in 1897, and there is a thoughful paper translated from a French scientific journal entitled "Man's Dependence on the Earth," which raises many questions worthy of serious consideration.

The May "Century," despite a delirium of color on its cover which is unpardonable, is a most excellent number. The article of most interest to our readers is entitled "Railway Crossings in Europe and America," by Franklin B. Locke. The paper gives an interesting account of foreign practice and American progress in the elimination of grade-crossing; but the writer displays very lame logic when he reasons that because European railways, which have few grade-crossings, make larger returns on the capital invested in them than American, therefore, American railways could increase their dividends by eliminating grade-crossings. His criticism of the railways for not cultivating suburban traffic, also displays scant knowledge of the real facts in connection with American railway management. Among articles of scientific interest are an account of the ascent of the "Mesa Encantada" last summer, and its archaeological significance. "What Are the X-Rays," by John Trowbridge; "Submarine Photography," by Louis Bouton, and a description of the Pyramids.

In "Harper's" for May we find a most valuable and interesting discussion of "The Trans-Isthmian Canal Problem," by Col. Wm. Ludlow, U. S. Engineers. As most of our readers will recall, Col. Ludlow was one of the Commission of Engineers which reported on the Nicaragua Canal enterprise in 1895, and his remarks on this work are so interesting that we have reprinted this portion of his paper elsewhere in this issue. Julian Ralph writes on "Awakened Russia," and gives a most interesting discussion of the people, the resources and the industries of modern Russia.

The "Review of Reviews" for May is very largely devoted to a discussion of the stirring events in connection with the Cuban question which have characterized the past month. As a rule this journal is noted for its judicial discussion of the questions of the day, but in its remarks on the Cuban question, like many other journals, its sympathies appear to be enlisted to such a degree as to make it depart somewhat from its usual non-partisan attitude.

In the English "Pall Mall Magazine" the series of articles on "The Evolution in Comfort in Railway Travelling," which we noticed last month, is continued with an article in which the progress in English passenger-car equipment is described. The writer goes out of his way to cast slurs on American passenger accommodations, prefacing his remarks on the subject with the statement that "American railroads have done but little to provide comfortable vehicles for their patrons." As might be expected from a writer who starts out with a statement so wide of the truth, his further remarks respecting American passenger and parlor-car accommodations are very far from the mark.

In the May "North American Review," papers by Clara Barton on "Our Work and Observation in Cuba," and by Horatio S. Rubens, Counsel of the Cuban Junta, on "The Insurgent Government in Cuba," will doubtless attract chiefest interest. Only second to these are papers on the methods of recruiting an army, by Capt. Parker and Lieut. Dapray. The former of these is a careful study of the recruiting methods adopted during the Civil War, and a discussion of the best means of raising an army for the United States to adopt. Our present experiences should teach us some valuable lessons as to the length of time required to transform even our trained militia into United States troops. It seems likely that when peace again permits the careful study of these matters, we shall see some arrangement perfected by which a national militia will supplement our present state organizations. Added interest is given to this subject by the paper by Sir Wm. H. Russell, in the same magazine, on "Recollections of the Civil War," in which he vividly describes the tumult of disorder in military matters which existed in the dark days of '61.

STATISTICS OF RAILWAYS.—Ninth Annual Report of the Statistician of the Interstate Commerce Commission for the Year Ending June 30, 1897. Pub. Doc.; 6×9 ins.; pp. 709; map.

This is the full report of the Commission, the advance sheets of which were reviewed in Engineering News of Oct. 21, 1897.

L'ARCHITECTURE DU FER ET DE L'ACIER.—Par A. Vierendeel. Professeur a L'Universite de Louvain. Conference donnee au Congrès International des Architectes reuni en Aout 1897, a Bruxelles. Paris, 1898; Ed. Lyon-Claesen. Pamph.; 8 x 10½ ins.; pp. 16; illustrated.

This paper discusses the use of iron and steel for buildings and bridges from the point of view of developing its capabilities for ornamental construction and ornamentation. A number of illustrations show the practical application of the ideas advanced in the body of the paper.

COMMERCIAL DIRECTORY.—Providence Journal of Commerce, Providence, R. I., March, 1898.

In this number of this publication is begun the publication of a commercial directory in four languages, English, German, French and Spanish, which will be continued in succeeding issues until completed. The purpose of this publication is to develop a complete directory of the commercial, industrial and manufacturing establishments of the United States, which will ultimately be published in book form.

MUNICIPAL REPORTS.—The following municipal reports have been received, being by city engineers, and the names mentioned being those of city engineers unless otherwise noted:

Metropolitan Sewerage Commission, Boston and vicinity, Wm. M. Brown, Jr., Chief Engineer, Boston, Mass.; Brockton, Mass., F. Herbert Snow; Cambridge, Mass., L. M. Hastings; Chelsea, Mass., J. H. Stubbs; Fitchburg, Mass., David A. Hartwell; Haverhill, Mass., Robert R. Evans; Spencer, Mass., Special Report on Sewage Disposal, Nathan E. Craig, Superintendent of Sewers; Providence, R. I., Otis F. Clapp; Albany, N. Y., Horace Andrews; Gloversville, N. Y., C. Fiske, Jr.; Utica, N. Y., Chapman L. Johnson; Bridgeton, N. J., Special Report on Sewerage and Sewage Disposal, Alex. Potter, Engineer, 137 Broadway, New York city; Baltimore, Md., Report of City Commissioner, William A. Hanway; Peoria, Ill., Department of Public Works, Almon D. Thompson; Minneapolis, Minn., F. W. Cappelen; Des Moines, Ia., L. Higgins; Montreal, P. Q., Percival W. St. George.

TIDE TABLES FOR CHARLOTTETOWN, PICTOU AND ST. PAUL ISLAND, C. B., FOR 1898.—With Tidal Differences for Northumberland Strait; and for the Open Gulf Shore, from Miramichi along the North Coast of Prince Edward Island. Issued by the Tidal Survey Branch of the Department of Marine and Fisheries of the Dominion of Canada: W. Bell. Dawson, Engineer in charge. Paper; 9¾ x 6½ ins.; pp. 10.

SPECIFICATIONS FOR STEEL FIRE BOAT, for the city of Chicago. Fire Department, March 1, 1898. Pamph.; 9¼ x 12 ins.; pp. 26.

This pamphlet contains a very elaborate set of specifications for a new fire boat for the city of Chicago, 118 ft. long, 24 ft. beam, 9 ft. draft. It is to be provided with three double-acting duplex vertical crank and flywheel fire pumps of a capacity of 3,000 gallons per minute for each pump.

NEW JERSEY STATE BOARD OF HEALTH.—Report for 1896-7. Henry Mitchell, M. D., Secretary, Trenton, N. J. Paper; 6 x 9 ins.; pp. 389; many tables.

A large part of this volume is taken up with reports from local boards of health, some of which give information regarding water supply, sewerage and garbage disposal systems. Two papers read before the New Jersey Sanitary Association in 1896 are reprinted: "The Public Health Law of New Jersey," by Judge W. M. Lanning, and "River Pollution," by E. J. Marsh. The usual report of vital statistics is given.

FATIGUE OF METAL IN WROUGHT-IRON AND STEEL FORGINGS.—By H. F. J. Porter. The Bethlehem Iron Co., South Bethlehem, Pa. Pamph.; 6 x 9 ins.; pp. 55.

This pamphlet is a reprint from the Journal of the Franklin Institute of a lecture delivered by Mr. Porter on the relative endurance of wrought iron and steel of different qualities to repeated loads. The results of the tests show that high carbon steel has a much longer life than low carbon steel under stresses like those to which axles directions.

THE COLLECTION AND DISPOSAL OF HOUSE AND STREET REFUSE IN ENGLAND.—By H. Alfred Roechling, C. E., Leicester, England. Paper; 6 x 9 ins.; pp. 28. Address the author, as above.

This is a general survey of the subject named, "with especial reference to the destruction by fire of such refuse." The author states that the contract system of collection and disposal has been almost entirely abandoned in England, the work being done by the municipalities and the cost met by general taxation. He estimates that 70 towns and cities, with an aggregate papulation of 8,279,000, have adopted refuse destruction by fire since 1876.

THE GREAT NORTH SIDE OR BOROUGH OF THE BRONX. New York: Issued by the North Side Board of Trade, 278 Alexander Ave., near 139th St., New York city. 8vo.; paper; pp. 249, xxv. Profusely illustrated.

This is a very creditable publication issued to show the advantage, for residence and business, of that portion of New York city included in the Borough of the Bronx, and greatly exceeding in area, of course, the Borough of Manhattan, which is still commonly thought of and spoken of as New York city. Among the dozen or more contributors to the volume are such well-known men as Gen. Egbert L. Viele, Hon. Louis F. Haffen, the late John C. De La Vergne and Hon. Samuel McMillan.

CONNECTICUT CIVIL ENGINEERS' AND SURVEYORS' ASSOCIATION.—Proceedings of Annual Meeting at Hartford, Conn., Jan. 11, 1898. Secretary and Treasurer, Geo. K. Crandall, New London. Paper; 6 x 9 ins.; pp 51 + IV.; illustrated. 50 cts.

This report contains the three following papers: "Chemical Precipitation Works at New Rochelle, N. Y.," by J. K. Wilkes, of New Rochelle, N. Y.; "Roaring Brook Water Supply for New Britain," by T. H. McKenzie, of Southington; "The Loss to the Civil Engineer by His Lack of Sociability," by Edwin D. Graves, of Hartford. are subjected, such as repeated bending in opposite There is also a list of members and a general index to the reports of the association from 1885 to 1895, inclusive.

REPORT OF NORTH CAROLINA RAILROAD COMMISSION.—Commissioners, L. C. Caldwell, John H. Pearson and D. H. Abbott. Pub. Doc. Cloth; 6 x 9 ins.; pp. 527.

The first 90 pages of this report give in full the proceedings in the matter of the suspension by Governor D. L. Russell of J. W. Wilson and S. O. Wilson from their positions of Commissioners, for violation of the section of the Railway Commission Law, which requires that no Commissioner shall hold any stock or bond of any railway company or have any interest in any way in such company. The remainder of the report is given up to the statistics of railways and the routine proceedings of the Commission.

STREAM MEASUREMENTS.—Report of Progress for the Calendar Year 1896. By Arthur Powell Davis. Extract from the Eighteenth Annual Report of the U. S. Geological Survey, 1896-7; Chas. D. Walcott, Director. Paper; 7½ x 12 ins.; pp. 418; 23 plates, 75 figures in the text and many tables. Washington, D. C.: Pub. Doc.

Detailed descriptions of the several gaging stations and the results obtained during 1896, and sometimes for other periods, are given in this volume. The work was extended to the southeastern part of the country in 1896. The survey is gradually accumulating a large number of widely distributing gagings which bid fair to become of great importance, especially when taken in connection with the special studies of the water resources of a number of states, now in progress, and the rainfall records of the Weather Bureau. The report contains numerous maps and diagrams and many half-tone reproductions of photographs.

DIE KNICKFESTIGKEIT IN THEORIE, VERSUCH UND PRAXIS.—By Fr. V. Emperger. Pamph.; 6 x 9 ins.; pp. 85. Published by der Zeitschrift des Oesterr. Ingeneur und Architecten Vereines, Vienna. Price, 50 cts.

This is a paper on the strength of columns, contributed to the Proceedings of the Austrian Society by Mr. von Emperger, together with the discussion. Among those taking part in the discussion were Professors Tetmajer of Zurich, Melan of Brunn, Mayer of Vienna, Ostenfeld of Copenhagen and our own Merriman and Dubois, making the discussion international in its scope.

WATERBORNE TYPHOID.—A Historic Summary of Local Outbreaks in Great Britain and Ireland, 1858 to 1893, with a Tabular Analysis of 205 Epidemics. A Report Prepared for the Parliamentary Bills Committee of the British Medical Association. By Ernest Hart. D. C. L., Chairman of the Committee. London: Smith, Elder & Co., 15 Waterloo Place. Paper; 8½ x 11 ins.; pp. 62; tables and illustrations. English price, two shillings; American price, $1.

This is a carefully prepared summary and discussion of all well authenticated epidemics of typhoid fever that have occurred in Great Britain and Ireland during the past 36 years. Its important bearing upon the question of pure water supplies is apparent at first thought, and grows stronger as one sees from the record the various ways in which water supplies become polluted.

MASSACHUSETTS STATE BOARD OF ARBITRATION AND CONCILIATION.—Report for the Year Ending Dec. 31, 1897. Chas. H. Walcott, Chairman; Bernard F. Supple, Clerk, State House, Boston. Paper; 6 x 9 ins.; pp. 176.

The efforts of this board to bring about speedy and equitable settlements of difficulties between employers and employed seem to have been more successful in 1897 than in previous years. This, however, is only the general impression received in reading the detailed reports from year to year. Work of this sort cannot easily be summarized, and the board does not attempt it. It gives 36 reports and decisions of cases coming before it in 1897. A valuable feature of the report is an appendix containing the constitutional or statutory provisions of 24 states of the union "for mediation of one kind or another in the settlement of industrial disputes."

VIADUCT ACROSS ROCK CREEK, DISTRICT OF COLUMBIA.—Letter from the Commissioner of the District of Columbia, transmitting report, descriptions, specifications, plans and estimates for a bridge or viaduct across Rock Creek, on the extension of Connecticut Avenue, Washington. Senate Document No. 96, 55th Congress, 2d Session; 9 x 5¾ ins.; pp. 26; 35 folding plans and diagrams.

This is the full report and the competitive plans for the proposed viaduct on Connecticut Ave., in Washington, illustrated and described in our issue of Jan. 27, 1898. As there announced, six plans were sent in by Messrs. George S. Morison, L. L. Buck and W. H. Breithaupt, all Members of the American Society of Civil Engineers. The Commissioners decided in favor of Mr. Morison's plans for a masonry bridge; and awarded prizes to Messrs. Buck and Breithaupt, for alternate Melan and steel construction.

LE PONT VIERENDEEL.—Notes pour le Jury Concours Somzee, de l'Exposition Universelle de 1897 a Bruxelles. Bruges. 1898. Chas. Houdmont. Paper; 8 x 10¾ ins.; pp. 75; illustrated.

Mr. Vierendeel, who is an architect and a professor of architecture in the University of Louvain, has devised a type of bridge in which the truss element is the rectangle instead of the triangle. At the Brussells Exhibition of last year a bridge of this type was tested to destruction. The results of this test and the conclusions of the jury by which it was made, together with the claims made by the designer for his construction, his answers to various criticisms, and a discussion of the methods of calculating both this construction and the ordinary truss construction are collected in this publication. The whole makes a very interesting little pamphlet to engineers who may be interested in seeing what an able engineer has to say for the advantages of replacing the triangle so long used as the fundamental truss element with the rectangle or portal construction.

SIXTEENTH ANNUAL REPORT of the State Bureau of Labor Statistics Concerning Coal in Illinois. 1897. David Ross, Secretary of the Bureau, Springfield, Ill. Pamph.; 6 x 9 ins.; pp. 223.

This report, besides the usual statistical record of the state inspectors of mines, concerning production, accidents, etc., contains a review of the great coal miners' strike, which lasted four months, involving 28,700 men, and resulted in an average increase of wages of 26%. It also contains much interesting matter relating to coal mining economy. The output of coal in the state for the year 1897 was 20,072,758 tons of 2,000 lbs., an increase of 1.46% over the preceding year. The average value of lump coal at the mines was 85.2 cts. and of other grades 36.5 cts. The average value of all coal was 72.1 cts., ranging from $1.036 in the second district to $0.531 in the sixth district. The average value of lump coal at all the mines in 1893 was $1.025. The use of mining machines has made but slight progress, only 19.66% of all the coal having been cut by machines.

PROPOSED SEA WATER PIPE LINE FOR THE CITY OF NEW YORK.—Reports of Chief of Department Hugh Bonner and Consulting Engineer Foster Crowell to the Board of Fire Commissioners. Paper; 6 x 9 ins.; pp. 27.

This report contains descriptions by both Mr. Crowell and Mr. Bonner of the special fire protection systems of Cleveland, Milwaukee, Detroit, Buffalo and Boston, each of which consists of a separate system of pipes supplied with water from the lake front or ocean by means of fire boats. The Boston system alone makes use of salt water. The report recommends an experimental system for New York, consisting of nearly a mile of 12-in. and 14-in. mains, extending from the North River through Franklin St. to Broadway, with two branches. Standpipes and aerial lines of pipe are also considered advisable for the protection of tall buildings and for checking the spread of fires from roof to roof. In our issue of March 24, 1898, there appeared a description of the separate high pressure fire protection system of Providence, R. I. The water for this system is taken from the same source as the regular supply of the city.

BROOKLINE PUBLIC BATH.—Reports of the Building Committee and of the Committee on Care and Management. With an Appendix Containing a Description of the Building, Illustrations, Schedule of Hours, etc. H. Lincoln Chase, M. D., Secretary Committee on Care and Management of the Public Bath. Paper; 6 x 9 ins.; pp. 20; illustrated. Address the Secretary at Brookline, Mass.

The report states that this is "the first municipal all-the-year-around bathing establishment, with swimming facilities as well as cleanliness baths," to be established in this country. Besides private baths, tub and rain, there are two swimming tanks, one for general use, 26 x 80 ft., and one for instruction, 10 x 22 ft. The water for the bath house is taken from the public supply. The water for the tanks is maintained at a temperature of 70° to 75° F. by means of a pulsometer. The total appropriation for the construction of the bath house, including grading around it, was $43,000. This does not include the cost of land, the site having been already owned by the city. Mr. F. Joseph Untersee, of Brookline, was architect for the bath house, and Mr. F. F. Forbes, Superintendent of the water-works of Brookline, is a member of the Committee on Care and Management.

GAS AND ELECTRIC LIGHT COMMISSIONERS OF MASSACHUSETTS.—Report for 1897. Paper; 6 x 9 ins.; pp. 184 + CLXXXVI.; many tables. Boston: Address the Commission.

The board now has under its supervision 134 companies, 13 towns and two cities. Of the companies 45 supply gas, 65 supply electricity and 24 both gas and electricity. Of the municipalities two supply both forms of light and 13 electric light only. The report contains the usual reviews of the proceedings to establish municipal plants; petitions, hearings and decisions for revisions of rates; reports on deaths caused by gas and electricity; the detailed operations of the several companies, with the character and extent of their works; and tables of rates charged for gas and electric lighting both public and private. The prices for lighting are the most detailed and satisfactory of any published in this country, so far as we know. Of course they are limited to Massachusetts towns and cities. The volume contains the following special reports by the board: On "Certain Deaths from Asphyxiation by Illuminating Gas;" on "Water and Coal Gas Used in the City of Boston;" and on "The Causes of the Gas Explosion on March 4, 1897, at the Corner of Tremont and Boylston Streets in the City of Boston."

WATER RESOURCES OF INDIANA AND OHIO.—By Frank Leverett. Extract from the Eighteenth Annual Report of the U. S. Geological Survey, 1896-7; Chas. D. Walcott, Director. Washington, D. C.: Pub. Doc. Paper; 7½ x 12 ins.; pp. 139; five plates, two figures in the text and numerous tables.

This volume first describes the surface waters of Ohio and Indiana, after which the underground waters of Indiana are treated at length and those of Ohio more briefly. The less full treatment of the underground waters of Ohio is due to the fact that arrangements have been made for a separate report on that subject. The present volume does not take up water power, owing to the fact that Ohio was well covered in this respect in the Reports of the Tenth Census, while a special report on the water power of Indiana is forthcoming. A considerable amount of information, largely statistical, is given regarding the city water supplies of the two states. This is based on correspondence, supplemented by "The Manual of American Water-Works" for 1897. A number of water analyses are included. Among the plates one shows the topography and another the geological formation of the two states and a third shows the relation of the glacial deposit to ordinary wells.

ANNUAL REPORT, MASSACHUSETTS RAILROAD COMMISSION, 1898.—Commissioners, John E. Sanford, Geo. W. Bishop and Hersey B. Goodwin. Pub. Doc.; 6 x 9 ins.; pp. 421.

The main body of this report is about equally divided between steam railways and street railways, and one of the most interesting discussions in the report is that comparing the relative growth of steam and street railway passenger traffic during the past three or four years. During the year there was a decrease of 11½ miles in steam railway mileage, and a general falling off in traffic and earnings in all particulars, although this shrinkage was very nearly counterbalanced by strict economy and a marked reduction in operating expenses. During the year it is stated that freight rates reached their lowest average point in Massachusetts, at 1.25 cts. per ton per mile. Although the falling off in the number of passengers carried by steam railways has been very marked since 1893, the report says that no exact statement can be made as to how much of this is due to the general commercial depression and how much to the competition of electric railways for the local and suburban travel. These electric roads have, according to the report, however, been increased by 148 miles during the year, making now a total street railway mileage in this state of 1,453 miles, of

which 1,428 miles are operated by electric power alone. The average cost of this railway per mile of main track has been $44,457, ranging from $10,000 to $97,000. The business and earnings of these street railways both show an increase over the preceding year. Of the total 93 companies, 50 paid dividends of from 2% to 10%.

REPORT ON THE CHARACTERISTICS OF THE LAKE ERIE & WESTERN RAILROAD SYSTEM, as Existing on Jan. 1, 1898.—Written and Compiled by W. F. Goltra, C. E., Secretary to the Vice-President and General Manager, and Chief Clerk to the Chief Engineer and Purchasing Agent. Indianapolis, Ind. Cloth; 6¼ × 8½ ins.; flap cover; pp. 133; illustrated; profile sheets in pocket of cover.

This is the third issue of a comprehensive and condensed report upon the history, construction, equipment and physical condition of the railways of the Lake Erie & Western system. The first issue of this "characteristic" report, made by Mr. Goltra, was reviewed at some length in our issue of April 25, 1895, and an extract from the second issue, dealing with the bridge renewals and substitution of permanent for temporary structures, was published in our issue of Aug. 6, 1896. This extract is partially repeated in the 1898 issue, but the cost of the work has been higher than was estimated in 1896, and the work yet remaining to be done is now estimated to cost $17, instead of $15 per ft. The report contains complete lists of sidings, railway and highway grade crossings, interlocking plants, bridges and culverts, buildings, turntables, coal and water stations, etc., with various particulars in each case. There are also descriptions of the track, fencing, telegraph system, track inspection, etc. The merits of this kind of report we discussed in connection with Mr. Goltra's first report.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

NATIONAL BICYCLES.—National Cycle Mfg. Co., Bay City, Mich. Pamph.; 6 × 8 ins.; pp. 31.

This pamphlet illustrates the various models of 1898 bicycles offered by this company.

DE LA HUNT FLUSH TANKS.—Malcolm V. Bolton, Cedar Rapids, Ia. Folder; 3½ × 6 ins.; pp. 4.

This pamphlet describes an automatic siphon, without moving parts. A section is shown.

VALVES, INJECTORS, STEAM SPECIALTIES.—The Lunkenheimer Co., Cincinnati, O. Pamph.; 4¾ × 7¼ ins.; pp. 208.

This is a very complete illustrated catalogue and price list of a great variety of steam, water, gas and oil fittings.

EFFICIENT POWER PUMPS.—The Goulds Manufacturing Co., Seneca Falls, N. Y. Pamph.; 8 × 7 ins.

This is a six-page supplement to the catalogue of power pumps issued by this company to show some of the larger types of machines it builds.

WELL DRILLING PLANT.—O. P. Benjamin Mfg. Co., Lafayette, Ind. Paper; 6 × 8 ins.; pp. 48.

Well drilling rigs operated by hand and horse-power, are illustrated and described, together with a variety of tools and appliances used in this class of work.

STEAM BOILERS.—The Murray Iron Works Co., Burlington, Iowa. Pamph.; 9 × 6 ins.; pp. 6.

This pamphlet contains half-tone cuts of five styles of horizontal return tubular boilers, designed for high pressures.

STEAM FIRE ENGINES, ETC.—Waterous Engine Works Co., St. Paul, Minn. Pamph.; 9½ × 6½ ins.; pp. 50.

This is a catalogue of steam, gasoline and chemical fire engines, hose carts, hook and ladder trucks and other fire apparatus.

STEAM VALVES.—Thos. G. Oakes & Co., 54 John St., New York city. Paper; 6 × 3½ ins.; pp. 16; illustrated.

This is a priced catalogue of the Oakes acorn, globe and other steam valves, from ⅛-in. upwards in size, and of Oakes acorn jointing and royal red packing.

MECHANICAL STOKERS.—Westinghouse, Church, Kerr & Co., 17 Cortlandt St., New York. Pamph.; 11¼ × 7¾ ins.; pp. 39.

This pamphlet contains an illustrated description of the well-known Roney stoker, with views of boiler plants in which it is in use.

THE NATIONAL FEED WATER HEATER.—The National Pipe Bending Co., New Haven., Conn. Pamph.; 3½ × 6 ins.

In this small pamphlet the gain by the use of feed water heaters is set forth, and the National heater is illustrated and described.

FIREPROOF BUILDING MATERIALS.—Henry Maurer & Sons, 420 E. 23d St., New York. Pamph.; 6 × 9 ins.; pp. 96.

This is a handsomely illustrated catalogue of fire brick, porous terra cotta, flat hollow arches, tiles, etc., for fireproof building construction.

MECHANICAL STOKERS.—Wm. Sellers & Co., Incorporated, 1600 Hamilton St., Philadelphia. Pamph.; 5 × 7½ ins.; pp. 26.

This pamphlet describes the Vicars mechanical stoker, which is in extensive use in Great Britain, and has recently been introduced in this country.

THE FINAL EFFORT OF THE TRUST DEFEATED.—The Walker Co., Cleveland, O.

This somewhat warlike title introduces circular No. 1071 of the Walker series, in which the decision of the United States Circuit Court of Appeals in the case of Thomson-Houston Co., appellee, vs. Union Railway Co. et al, appellant, is given. The Walker Co. considers this a great victory, as it practically throws the manufacture and sale of the underrunning trolley open to all.

STATIC TRANSFORMERS.—Circular 1072, by the same company, gives notice that all the transformers necessary in connection with Walker alternating current machinery will be of the well-known "Wagner type." These are manufactured for the Walker Co. by the Wagner Manufacturing Co., St. Louis, Mo. The circular describes the details of this make of transformer and gives tables of dimensions and results of tests.

DYNAMITE.—King Powder Co., Cincinnati, O. Paper folder; 9¾ × 6 ins.

This company's "Rex powder" is a high class of dynamite, and it also manufactures an ammonia powder of a somewhat low grade. Both explosives are put up in cartridge form.

TRAVELING CRANES.—Case Mfg. Co., Columbus, O. Paper; 8 × 10¾ ins.; pp. 8.

A great variety of cranes and hoists is manufactured by this company, but this pamphlet deals with its three-motor electrical traveling cranes for heavy lifting in railway erecting shops and foundries, etc.

EXCAVATING MACHINE.—Calhoun Excavator Co., Unity Building, Chicago. Paper; 6 × 8¾ ins.; pp. 8.

This pamphlet contains a reprint of an illustrated article in Engineering News, describing the Calhoun excavating and conveying machine for handling coal, ore, etc. at the.

TENTS AND CAMP OUTFITS.—H. Channon Co., 24 Market St., Chicago. Paper; 6¾ × 10 ins.; pp. 88.

Tents of all kinds, flags, camp cooking outfits, waterproof coats, caps, gun cases, etc.; camp furniture, hammocks, boat fittings and a variety of articles of this character are included in this catalogue.

ROCK DRILLS.—The John M. Rogers Boat, Gage and Drill Works, Gloucester City, N. J. Circular; 4 pages.

This circular describes a rock drill which has some novel features. The valve is of the Corliss type, which it is claimed has many advantages over the piston or spool valve used in other drills.

TELESCOPIC METER COUPLING.—Neptune Meter Co., 253 Broadway, New York city. One-page circular.

The Trident telescopic coupling is designed for use in connecting meters to iron pipes. It consists of a regular coupling inserted into a sleeve provided with plastic packing material, giving a telescopic movement of ¾-in.

PUMPS AND WATER SUPPLIES.—O. P. Benjamin Mfg. Co., Lafayette, Ind. Paper, 4½ × 7 ins.; pp 268.

This is a comprehensive catalogue and price list of the lighter styles of pumps and an almost endless variety of supplies. Numerous styles of windmill and well pumps are shown, also hydraulic rams and special pumps for irrigation work.

MELAN ARCH BRIDGE, TOPEKA, KAN.—The Commercial Club, Topeka, Kan. Pamph.; 9 × 7 ins.; pp. 32; illustrated.

This pamphlet illustrates and describes briefly the new five-span Melan arch bridge recently completed at Topeka, Kan., and fully described in Engineering News of April 2, 1896; Sept. 23, 1897, and Feb. 10, 1898.

FAN MOTORS.—General Electric Co., Schenectady, N. Y. Pamph.; 5¼ × 7 ins.

This is a very attractive little circular bearing the number 9060, in the General Electric Series. Its 14 pages are devoted to illustrations and descriptions of the types of fan motors, both direct and alternating current, that this company is offering for the summer of 1898.

RAILWAY WATER SUPPLY.—U. S. Wind Engine & Pump Co., Batavia, Ill. Paper; 6¾ × 10 ins.; pp. 48.

This company manufactures a full line of machinery and supplies for railway water stations, including tanks and tank trestles, gas and windmill pumps, well pumps, tank fittings, and the Mansfield water column for filling locomotive tenders.

PAVING TOOLS AND MACHINERY.—The Contractors' Tool Co., 727 Arch St., Philadelphia, Pa. Paper; 6 × 9 ins.; pp. 30; illustrated.

This is a priced catalogue of asphalt mixers, wagons, rollers and thermometers; mastic and roofing kettles; dippers, stirrers and buckets; shovels, rakes and other asphalt tools; cement and concrete tools; picks and hammers; plows, scrapers and tools for road work.

COAL HANDLING FOR STEAM GENERATION.—C. W. Hunt Co., 45 Broadway, New York. Pamph.; 6¾ × 9¼ ins.; pp. 64.

This pamphlet contains illustrated descriptions of the well-known Hunt Conveyor and other machinery for handling coal, ashes and other materials, for boiler rooms, coal yards, etc. Many sectional and photographic views are shown of actual illustrations.

LUNDELL FAN MOTORS.—Sprague Electric Co., 20 Broad St., New York city. Pamph.; 7 × 9¼ ins.; illustrated.

This pamphlet describes the various types of fan motors manufactured under the trade name of Lundell. A portion of the space is given up to illustrations of details of armature, field, bearings and brush holders. The motors are made for both alternating and direct current.

PIPE THREADING AND CUTTING MACHINES.—The Bignall & Keeler Manufacturing Co., Edwardsville, Ill. Paper; 4 × 6 ins.; pp. 108; illustrations and tables.

This is a priced descriptive catalogue of hand and power pipe threading and cutting machines, combination bench and pipe vises, shapers, emery surfaces, screw punches and special tools and machinery. Many testimonials are given and a number of useful tables.

FIREPROOF STEEL GRAIN ELEVATORS.—The Steel Storage and Elevator Construction Co., Buffalo, N. Y. Pamph.; 6 × 9 ins.; pp. 31; illustrated.

The steel tank system of elevator construction controlled by this company was described in Engineering News of March 17, 1897. This is a trade pamphlet describing the same construction quite fully and illustrating a number of the more important nstallations.

CENTRIFUGAL PUMPS.—The Lawrence Machine Co., Lawrence, Mass. Pamph.; 8 × 5¼ ins.; pp. 46.

This is the 7th edition of an illustrated catalogue and price list of different forms of centrifugal pumps, adapted for a variety of conditions. Some of the pumps are built with engines direct connected. One of the pumps made by this company has a record of lifting water 26 ft. by suction for 60 days continuously without once losing its suction.

RAILWAY VELOCIPEDES.—The Railway Cycle Mfg. Co., Hagerstown, Ind. Paper; 3½ × 6 ins.; pp. 20.

The Hartley & Teeter inspection cars built by this company, are built on the bicycle system of construction, with tube frames and wire-spoke wheels. The single-seat car has a diamond frame with transverse members connected to the axles, while the double-seat car has two drop frames side by side. The weights are 60 and 75 lbs., respectively.

ELECTRIC ROCK DRILLS.—Marvin Electric Drill Co., Canastota, N. Y. Pamph.; 6 × 9 ins.; pp. 31; illustrated.

This pamphlet gives a very good general description of the Marvin electric percussion rock drill, which has been quite extensively used for quarrying and rock excavation at the quarries of the Solviay Process Co., on the New York State Canals improvement, and at other places. Both the drill and the generator construction are fully described, and a number of records of capacity are also given.

GENERATORS AND MOTORS.—Armitage-Herschell Co., North Tonawanda, N. Y.

This is a card giving a very brief description of a type of slow-speed multipolar machine. A table of sizes, rating and prices is given from 1-16 to 50 HP. This is based on the output at a speed of 1,000 revolutions per minute. Several electrical and copper equations and a table of weight, and drop per ampere per 1,000 ft. of copper wire are included.

PORTABLE TESTING SET.—Queen & Co., Inc., 1010 Chestnut St., Philadelphia, Pa. Pamph.; 6⅞ × 10 ins.

This pamphlet describes the Queen-Acme Portable Testing Set, an instrument for making quick and reliable tests of electric resistance. The set includes a D'Arsonval galvanometer, a battery of 6 chloride of silver cells, two contact keys and the various platinoid resistance coils necessary to form a Wheatstone bridge with a range of 0.001 to 11,110,000 ohms.

ENGINEERS' AND SURVEYORS' INSTRUMENTS.—Queen & Co., 1010 Chestnut St., Philadelphia, Pa. Paper, 8½ × 5½ ins.; pp. 186. First edition; illustrated.

A new descriptive catalogue of transits of various types, levels, plane table adjustments, stadia rods, etc. This is not a priced catalogue, but rather a treatise upon these instruments, their care, handling, adjustment, faults or errors, details of manufacture, etc. Included are a number of useful tables to be employed in connection with instrumental work.

TRINIDAD LAKE ASPHALT PAVING.—Warren-Scharf Asphalt Paving Co., 81 Fulton St., New York. Paper; 8 × 5¾ ins.; pp. 53; illustrated.

This pamphlet sets forth the advantages of Trinidad Lake asphalt sheet-pavement and illustrates its use by excellent photogravures of asphalt paved streets in many American cities. Tables are also given, showing the sq. yds. laid in each year in a number of these cities, with city maps indicating in red the location of these streets. These last will be found convenient by wheelmen.

INSTRUCTIONS IN PHOTOGRAPHY.—(1) A Reference Book of Practical Photography; (2) First Step in Photography; (3) Second Step in Photography. By F. Dundas Todd. Chicago: The Photo-Beacon Co. Three pamphlets; paper; 4¼ × 6 ins.; (1) pp. 104; 50 cts.; (2) pp. 52; 25 cts.; (3) pp. 98; 50 cts.

These little books by Mr. Todd, Editor of the "Photo-Beacon," give practical instructions as to focusing, light, position, apparatus, and other matters connected with the taking of photographs, and also full instructions as to methods of developing, printing and enlarging.

TURBINE WHEELS, "CASCADE" WATER-WHEELS, ENGINES AND BOILERS.—The James Leffel & Co., Springfield, O. Three pamphlets; 7½ × 5 ins.; pp. 124, 42, 40.

The Leffel turbine wheels are well known. The "Cascade" is an impulse wheel, something like the Pelton in external appearance, the form of the buckets being different. The engines and boilers described are mostly of the agricultural portable and semi-portable type, but center crank stationary engines, both throttling and automatic cut-off, are also described.

ILLINOIS STEEL CO., Chicago, U. S. A.—Pamph.; 5¼ × 7½ ins.; pp. 42.

This pamphlet contains descriptions of the five iron and steel plants owned by the Illinois Steel Co. at Chicago and Joliet, Ill., and Milwaukee, Wis. The company is now a competitor in the markets of the world, although it is located 1,000 miles from the seaboard and assembles its materials from distances of 300 to 700 miles. The pamphlet is illustrated by numerous excellent half-tone cuts of scenes about the works.

GOLD DREDGING MACHINERY.—Catalogue No. 15. Gold Dredging on Feather River, California, Catalogue No. 16; Risdon Iron Works, San Francisco, Cal. Pamphs.; 6¾ × 10 ins.; pp. 32 and 16.

The Risdon Iron Works has purchased the patents and rights of building Mr. R. H. Postlethwaite's dredges, which have been used with great success in New Zealand and are now being introduced in California. Dredges on the Feather River, Cal., are said to be handling gravel at a cost of 3 cts. per cu. yd. The pamphlets have a number of half-tone cuts showing the dredges in operation.

ELECTRIC MOTORS IN THE ART OF PRINTING.—Sprague Electric Co., 20 Broad St., New York city. Pamph.; 6¾ x 8¼ ins.

As implied in the title, this pamphlet presents the advantages of electric motors for driving printing machinery, under the heads of Power and Increased Product. The experiences of the American Book Co. and the American Lithographic Co., both of New York city, are given as evidence. The pamphlet is a most beautiful specimen of the printer's art, especially in its artistic cover.

CAMERAS AND PHOTOGRAPHIC SUPPLIES.—The Western Camera Mfg. Co., 133 Wabash Ave., Chicago, Ill. Paper; 7 x 5¼ ins.; pp. 48.

The principal specialty now being introduced by this company is its "Magazine Cyclone" camera, which holds 12 plates and does not require any extra plateholders. The magazine holds the plates, and as each plate is used it is lowered to the proper position by means of a button outside the case. When all the plates have been used the magazine can be removed from the case and replaced with another containing 12 new plates.

TRINIDAD LAKE ASPHALT PAVING.—The Barber Asphalt Paving Co., Main Office, Bowling Green Building, New York. Paper; 7½ x 5 ins.; pp. 126; illustrated.

This is a new edition of the company's catalogue, handsomely illustrated by photographic views of the Trinidad Lake, the works of the company and many streets in principal American cities paved by the company. Lists of streets and areas laid in each, and maps of the cities paved, are also given, along with testimonials from public health officers, city officials, etc.

ENGINES AND BOILERS.—The Phoenix Iron Works Co., Meadville, Pa. Pamph.; 10 x 7½ ins.; pp. 26.

This is a catalogue of the "Dick and Church" engine, which is of the automatic high-speed type, and is equipped with the Rites governor. Tandem engines are built with the high pressure cylinder in front of, or nearer the shaft than the low, which is the reverse of the usual position. The pamphlet also has illustrations of four different types of boilers made by the company, viz., horizontal tubular, Manning vertical, internal corrugated furnace drop flue, and Moyes "Combine" water-tube.

TEST OF A NASH GAS ENGINE.—National Meter Co., New York. Pamph.; 6 x 9 ins.; pp. 14.

This pamphlet contains the report of a test of a 20-HP. Nash gas engine coupled by a friction clutch to a Riker dynamo. The test was made at the Stevens Institute of Technology. Using gas of a heating value of 701 B. T. U. per cu. ft., the engine developed 22.71 brake HP., with a gas consumption of 17.62 cu. ft. per hour per B. HP. The amount of light furnished by the electric lamps fed by the dynamo was 1.69 times as much as would have been given by the gas burned in ordinary gas burners.

CONVERTED BELTED GENERATORS.—Walker Co., Cleveland, O. Pamph.; 7⅞ x 10¾ ins.

This circular is issued to call attention to a line of generators known as the "Converted type," which has been developed by the Walker Co. to suit conditions where a belted generator is preferred. The machine closely resembles in design and operation the well-known line of direct connected generators manufactured by this company. Some details of construction are illustrated and explained, and outline dimension drawings of two-bearing and three-bearing belted generators are given.

STEAM ENGINES.—The "Twiss" Automatic Cut-Off Engine. Nelson W. Twiss, New Haven, Conn. Pamph.; 9 x 5½ ins.; pp. 8.

The "Twiss" engine has some novel features. It is of the general form of the Corliss engine, with two rotary valves instead of four, each valve being both steam and exhaust valve. The valve is of a hollow cylindrical form, and inside of it there is journaled an auxiliary or cut-off valve. This cut-off valve is liberated by a tripping cam. The engine, therefore, appears to combine the principles of the Rider cut-off valve with a modified Corliss trip motion.

ELECTRIC, HYDRAULIC AND STEAM ELEVATORS.—Standard Elevator & Mfg. Co., Chicago., Ill. Pamph.; 6¾ x 9¾ ins.; pp. 12.

This pamphlet is issued to call attention to some of the types of elevators manufactured by the Standard Co. It includes a full-page half-tone of the interior of the company's shop, to give an idea of its facilities, and several illustrations of electric elevator motors of two and four-pole types. A small portion is given up to describing the "special features" of the electrical construction, such as operating devices, variation of speed, safety devices, pinions and cages and cars.

HOLLOW TILE SEWERS.—The National Web Tile Sewer Co., Kirk Building, Syracuse, N. Y. Paper; 9 x 7 ins.; pp. 32; illustrated.

This catalogue describes glazed hollow tile terra cotta sewers from 2 to 7 ft. in diameter, which the company named has been organized to introduce throughout the United States. The company claims as advantages for this kind of sewer over brick that the material is better burned, and therefore more durable and stronger; that it absorbs less water and gases; and, having a smoother surface and fewer joints, would have a greater carrying capacity. Shapes for manholes and keys for subway conduits are also described in the catalogue.

KODAKS.—Eastman Kodak Co., Rochester, N. Y. Pamph.; 5½ x 7¾ ins.; pp. 52; illustrated.

This is a pleasing little catalogue of that type of camera known everywhere where cameras are used by the name of "kodak." Descriptions are given of cameras ranging from the "Pocket kodak," which is 2¼ x 2⅞ x 3⅞ ins., through a variety of styles and sizes to what may be termed the very latest thing in cameras—the "Folding Cartridge Kodak" with bicycle case—a camera taking a 4 x 5-in. picture upon a film, enough of which is rolled on for 12 exposures. These cartridges, so called, can be placed in the camera or removed in broad daylight. Such accessories as tripods, lanterns, developing sets, etc., are also listed or described.

CONTRACTORS' AND RAILWAY SUPPLIES.—H. Channon Co., 24 Market St., Chicago. Cloth; 7 x 10¼ ins.; pp. 242.

This is a voluminous descriptive catalogue and price list of a large range of supplies, including wire rope, blocks and sheaves, differential hand-hoists, pumps, derricks, winches, tools of all kinds, emery wheels, wheelbarrows, etc., etc. A comprehensive catalogue of this kind, giving prices, is a very handy thing for any contractor or engineer to have at hand.

GRADING AND ROAD MACHINERY.—Western Wheeled Scraper Co., Aurora, Ill. Paper; 9¾ x 6¾ ins.; pp. 56.

Much ingenuity has been expended in the design of machinery for excavating and handling earthwork, and this handsome catalogue illustrates and describes the various "Western" machines. It includes different styles of drag and wheel scrapers, grading plows and road machines. Some of these machines have elevating conveyors which load the excavated material directly into dump carts. Rock crushers, street sweepers, dump wagons, etc., are also included.

HORIZONTAL STEAM ENGINES.—W. J. B. Albree Mfg. Co., Indianapolis, Ind. Paper; 10 x 6¾ ins.; pp. 48.

The "Economic" automatic engine is a single cylinder, horizontal, center-crank engine, with the crank disks running in an oil chamber. The slide valve is of triangular section, taking steam on the inside. The "Economic" boiler has a single furnace flue, with a combustion chamber and return tubes. The catalogue shows also simple and compound side-crank engines, and specialties in steam separators, condensers, coolers and tank lubricators for cylinders.

BRIDGE RAILINGS.—The Belmont Iron Works, Philadelphia, Pa. Pamph.; 10 x 9 ins.; pp. 28; illustrated.

This pamphlet contains illustrations and prices of a large number of standard and special designs for bridge railings, newel posts, lamp posts, name plates, bridge portal castings, etc., manufactured by the company named above. Special attention is directed to the company's rolled and drawn steel hand rail, which is claimed to be particularly rigid both laterally and vertically, and also to the rolled and drawn steel base molding designed to correspond with the hand rail.

WOODILINE.—The American Wood Preserving Co., Philadelphia, Pa. Pamph.; 6 x 4½ ins.; pp. 39; illustrated.

This pamphlet contains a very good description of this new preservative for timber and of the methods of applying it which have been employed in a number of important works. Among the plants described are the one used in treating the ties of the Boston subway, the large plant of the Pennsylvania R. R. Co. at Pavonia, N. J. (Eng. News, Dec. 31, 1896), and a portable plant designed for railway use which is now employed by a prominent Western railway.

WIRE ROPEWAYS.—The Hallidie Wire Ropeway, manufactured by the California Wire Works, San Francisco, Cal. Pamph.; 6 x 9¼ ins.; pp. 44.

This pamphlet contains a most interesting illustrated description of the simplest method of conveying materials long distances by wire ropes. It is the single endless rope system, the same rope traveling in a continuous circuit and carrying buckets suspended from it. A recent installation of this system at Nelson, British Columbia, is 4½ miles long, with a fall of 4,000 ft. During 1897 it carried 49,540 tons of ore. Its capacity is to be increased to 100,000 tons per annum by increasing the size of the carriers.

STEAM PUMPS.—National Foundry & Machine Co., Louisville, Ky. Cloth; 5½ x 8 ins.; pp. 96.

This is a catalogue of the Reilly pumps, which are adapted to various classes of service. The ordinary patterns are horizontal (bilge pumps, vacuum pumps and pressure pumps, etc.), but vertical patterns are used for deep wells. The specialties also include horizontal air compressors, vertical blower engines, independent condensing apparatus for non-condensing engines, and horizontal compound plunger pumps. Several pages are devoted to testimonials, and useful information, and at the end are some 20 blank pages of cross-section paper for memoranda.

ROAD MACHINERY.—F. C. Austin Mfg. Co., Chicago, Ill. Paper; 10¾ x 7¾ ins.; pp.76.

This is a handsome illustrated and descriptive catalogue of machinery for road making and maintenance. There are jaw rock crushers and complete crushing and screening plants, reversible rollers, grading machines (some of which are shown as used for removing snow on streets in Chicago), dump wagons, street sweepers and sprinklers, drag and wheel scrapers, etc. One New Era grader is shown hauled by a traction engine. Besides all this the catalogue includes tubular truss bridges, well drilling machinery, a ditching and sewer building machine and a current motor.

LAKE TRIPS.—Northern Steamship Co. Pamph.; 6¼ x 8¾ ins.

This is a very artistic pamphlet, entitled "In All the World No Trip Like This," and is a reprint of an article appearing in the Chicago "Tribune," in which Jeannette L. Gilder tells of the delights of the Great Lakes; nor must "A Briton's Frank Confession," which follows, be overlooked. The object of the pamphlet is twofold; the first, intimated by saying that it comes from the Northern Steamship Co., and in the second, shown best by quoting a statement printed in red ink on the cover: Steamer "Northwest," of this line, specially chartered by the Northwestern Electrical Association for 1898 Summer Convention, sails from Chicago June 10. For reservations apply before May 20 to Thos. R. Mercein, Secretary, 110 Mason St., Milwaukee, Wis., or to J. M. Hill, 1,240 Monadnock Block, Chicago.

AMERICAN PORTLAND CEMENT.—Commercial Wood & Cement Co., New York. Pamph.; 5½ x 8 ins.; pp. 91; illustrated.

This pamphlet describes briefly the method of manufacturing Portland cement at the works of the Glens Falls Portland Cement Co., and contains a number of well considered remarks about the testing and general qualities of Portland cement and some rules for using it so as to get the best results abstracted from the little book, "Portland Cement for Engineering Works," by W. W. Maclay, M. Am. Soc. C. E. By the same mail we have received from the Commercial Wood & Cement Co. pamphlets describing the "Commercial" Rosendale cement, the "Victor" Portland cement and the 'Commercial" Portland cement, for which they are also the selling agents.

STEAM BOILERS.—The Moyes "Combine" Water Tube Boiler. Phoenix Iron Works Co., Meadville, Pa. Pamph.; 7½ x 10 ins.; pp. 8.

The boiler described in this pamphlet is of the inclined sectional type, with a different arrangement of the steam and water drums than is customary in most boilers of the type. The setting is roofed over so as to cover the whole of the drums. We notice that the makers insert one of the old-fashioned sweeping claims to the effect that the boiler "will deliver more steam and of higher quality per square foot of heating surface for each pound of coal burned than any boiler in the market." We very seriously question whether a concern does not prejudice customers against its goods rather than in favor of them by making such sweeping claims. We see nothing in the design of the boiler to lead one to expect different results than are obtained with other standard makes of horizontal water-tube boilers.

NITRO HIGH EXPLOSIVES.—Nitro Powder Co., Kingston, N. Y. Pamph.; 7 x ins.; pp. 15.

This company manufactures Nitro-Plastine, Nitro-Powder and Nitro-Granular; and as compared with other nitro-glycerine powders it claims greater safety in handling, less liability to freeze and superior keeping qualities. Nitro-Plastine is of a gelatinous consistency and of high specific gravity; more powerful in the higher grades than the strongest dynamite; safe against violent shock, and especially adapted to difficult blasting. Nitro-Powder is an improved dynamite, made by substituting for part of the nitro-glycerine another substance which is in itself inexplosive, but in combination with nitrate of soda yields a large volume of gas and adds to the strength of the explosive. Nitro-Granular Powder is in grains and free running; it is especially applicable in blasting stumps, frozen earth, tough clays and hard-pan. Full directions for use are given.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work. Place.	See Eng. News.
May 5.	Paving, Buffalo, N. Y.	Apr. 28
May 5.	Easement, Sacramento, Cal.	Apr. 28
May 5.	Branch sewers, Philadelphia, Pa.	Apr. 28
May 5.	Macadamizing, Cincinnati, O.	Apr. 28
May 5.	Iron bridge, Monticello, Ind.	Apr. 28
May 5.	Chapel, Jackson, Mich.	Apr. 28
May 5.	Electric light plant, Grand Rapids, Mich.	Apr. 28
	Advertised, Engineering News, Apr. 21.	
May 5.	Steel bridge, Jersey City, N. J.	Apr. 21
May 5.	Hospital building, Morris Plains, N. J.	Apr. 21
May 5.	School building, Millville, Utah.	Apr. 21
May 5.	Grading, paving, etc., Cameron, W. Va.	Apr. 21
May 5.	Steam heating, etc., Buffalo, N. Y.	Apr. 14
May 5.	Electric wiring, etc., Buffalo, N. Y.	Apr. 14
May 5.	Sewer bonds, East Cleveland, O.	Apr. 14
May 5.	Brick paving (47,000 sq. yds.), Tampa, Fla.	Apr. 7
	Advertised, Eng. New, Apr. 7 to 28.	
May 5.	Road bonds, Salem, Ind.	May 5
May 5.	Sheet asphalt (14,200 sq.yds.), Newark, N.J.	May 5
May 5.	Post office supplies, Washington, D. C.	May 5
May 5.	Bridge, Pittsburg, Pa.	May 5
May 6.	Surf boats (21), Washington, D. C.	May 5
May 6.	Steel span bridge, Clearmont, Mo.	May 5
May 6.	Dredging, Connecticut River, Conn.	Apr. 7
	Advertised, Eng. New, Apr. 7 to 28.	
May 6.	Macadamizing, Scottsburg, Ind.	Apr. 21
May 6.	Water-works, Calhoun, Ga.	Apr. 21
May 6.	Sewers, Norristown, Pa.	Apr. 21
May 6.	Plaster models, etc., Omaha, Neb.	Apr. 21
May 6.	Macadam (26 miles), Scottsburg, Ind.	Apr. 28
May 6.	Pipe sewers, Cleveland, O.	Apr. 28
May 6.	Reservoir, Boston, Mass.	Apr. 28
	Advertised, Engineering News, Apr. 28.	
May 6.	Bridge, Aiken, S. C.	Apr. 28
May 7.	Improving road, Stamford, Conn.	Apr. 28
May 7.	Bridges (8), Sherbrooke, N. Dak.	Apr. 28
May 7.	Macadamizing (16½ miles), Kenton, O.	Apr. 28
May 7.	Macadamizing, Monticello, Ind.	Apr. 28
May 7.	Electric light plant, Boston, Mass.	Apr. 28
May 7.	Lead pipe, etc., Syracuse, N. Y.	Apr. 28
May 7.	Asphalt block paving, Alliance, O.	Apr. 21
May 7.	Building substructure, Cheyenne, Wyo.	Apr. 14
May 7.	Brick paving, Wheeling, W. Va.	May 5
May 7.	Superstructure (100 ft. long), Decatur, Ill.	May 5
May 8.	Macadamizing, etc., Berkeley, Cal.	May 5
May 9.	Water bonds ($300,000), Cleveland, O.	Apr. 14
May 9.	Sidewalk and curbing, (1 m.), Lafayette, Ind.	Apr. 7
May 9.	Brick paving, Hornellsville, N. Y.	Apr. 21
	Advertised, Eng. News, Apr. 21 and 28.	
May 9.	County road, Huntington, W. Va.	Apr. 21
May 9.	School building, Scranton, Pa.	Apr. 28

May 9. Laying water pipe, Boston, Mass. ....Apr. 28
Advertised, Engineering News, Apr. 28.
May 9. Sidewalks, Youngstown, O. ....Apr. 28
May 9. Broken stone, Newark, N. J. ....May 5
May 9. Stone sidewalks, etc., Montclair, N. J. ....May 5
May 9. Brick and concrete walks, Toronto, Ont. ....May 5
May 9. Cables and accessories, Allegheny, Pa. ....May 5
May 9. Water pipe, lead, etc., St. Paul, Minn. ....May 5
May 9. Wooden truss bridge, Bozeman, Mont. ....May 5
May 9. Valves, etc., Baltimore, Md. ....May 5
May 9. Artesian well, Redwood City, Cal. ....May 5
May 10. Grading, Simsbury, Conn. ....May 5
May 10. Jail building, Lewistown, Ill. ....May 5
May 10. Grading, Troy, N. Y. ....May 5
May 10. Brick sidewalks, etc., Louisville, Ky. ....May 5
May 10. Brick paving, etc., Morgan Park, Ill. ....May 5
May 10. House of refuge, Walkerton, Ont. ....May 5
May 10. Viaduct superstructure, Buffalo, N. Y. ....May 5
May 10. Iron bridge, Oshkosh, Wis. ....May 5
May 10. Water pipe, and castings, Rochester, N. Y. ....May 5
May 10. Paving, etc., Mount Vernon, N. Y. ....Apr. 28
May 10. Hotel building, Centerville, Ala. ....Apr. 28
May 10. School building, Monticello, Ind. ....Apr. 28
Advertised, Engineering News, Apr. 28.
May 10. Stone dam, Mazeppa, Minn. ....Apr. 28
May 10. Brick, New Orleans, La. ....Apr. 21
May 11. County bridge, Gonzales, Tex. ....Mar. 8
May 11. Grading, etc., Cincinnati, O. ....Apr. 21
May 11. Hospital buildings, Massillon, O. ....Apr. 21
May 11. Street improvements, Hoboken, N. J. ....Apr. 21
May 11. Hospital building, Detroit, Mich. ....Apr. 21
May 11. Bridge bonds, Bowling Green, O. ....Apr. 28
May 11. Macadam road, Wethersfield, Conn. ....Apr. 28
May 11. Heating, Ida Grove, Ia. ....Apr. 28
May 11. Fire engines, trucks, etc., New York ....May 5
May 11. Fire hose, (43,500 ft.), New York, N. Y. ....May 5
May 11. Sewers, Chicago, Ill. ....May 5
May 11. Paving bridge, Ansonia, Conn. ....May 5
May 11. Brick and block paving, etc., Chicago, Ill. ....May 5
May 11. Water-works, Mount Kisco, N. Y. ....May 5
May 12. Capitol building bonds, Prescott, Ariz. ....May 5
May 12. Constructing drive, Philadelphia, Pa. ....May 5
May 12. Paving material, etc., Baltimore, Md. ....May 5
May 12. Macadamizing, Buffalo, N. Y. ....May 5
May 12. Laying water pipe, Boston, Mass. ....May 5
Advertised, Engineering News, May 5.
May 12. Pontoon work, New York, N. Y. ....May 5
May 12. Electric light plants, Memphis, Tenn. ....May 5
May 12. Superstructure and draw, Boston, Mass. ....May 5
May 12. Water-works supplies, New York, N. Y. ....May 5
May 12. School building, Ida Grove, Ia. ....Apr. 28
May 12. Sewer pipe (50,000 ft.), Quincy, Mass. ....Apr. 28
Advertised, Engineering News, Apr. 28.
May 12. Pipe sewers, (14,200 ft.), Quincy, Mass. ....Apr. 28
Advertised, Engineering News, Apr. 28.
May 12. Bridge superstructure, Millwood, O. ....Apr. 21
May 12. Court house, Sonora, Cal. ....Apr. 21
May 12. Water pipe, etc. (21,000 ft.), Spokane, Wash. ....Apr. 21
May 12. Bridge, Spokane, Wash. ....Apr. 21
May 12. Sewers, Cleveland, O. ....Apr. 21
May 12. Mortar battery, Boston, Mass. ....Apr. 14
Advertised, Eng. News, Apr. 14 to May 5.
May 12. Iron bridge, Shreveport, La. ....Apr. 14
May 12. Iron bridge (324 ft.), Easton, Md. ....Apr. 14
May 13. School building, Chicago, Ill. ....May 5
May 13. Dredging (45,500 cu. yds.), New York ....May 5
May 13. Water pipe and castings, Syracuse, N. Y. ....May 5
Advertised, Engineering News, May 5.
May 14. Bridge, Alexandria, S. Dak. ....May 5
May 14. Water pipe and reservoir, No. Andover, Mass. ....May 5
Advertised, Engineering News, May 5.
May 14. Repairing pavements, etc., Erie, Pa. ....Apr. 14
May 14. Keepers' dwelling, Oswego, N. Y. ....Apr. 14
Advertised, Eng. News, Apr. 14 and 21.
May 14. Street bonds, Canton, O. ....Apr. 21
May 14. Garbage disposal, etc., Newport News, Va. ....Apr. 21
May 14. Asphalt paving, etc., Cleveland, O. ....Apr. 21
May 14. Mortar battery, Boston, Mass. ....Apr. 21
Advertised, Eng. News, Apr. 21 to May 5.
May 14. Improving road, Cincinnati, O. ....Apr. 21
May 14. Macadamizing, Monticello, Ind. ....Apr. 28
May 14. Bridge approaches (4), Cincinnati, O. ....Apr. 28
May 15. Laying water pipe, etc., Hallowell, Me. ....Apr. 14
Advertised, Engineering News, Apr. 14.
May 15. Water-works, Rock Hill, S. C. ....May 5
May 16. Pipe sewers, etc., Elizabeth, N. J. ....May 5
May 16. Flag, curb, etc., Elizabeth, N. J. ....May 5
May 16. Brick paving, Freeport, Pa. ....May 5
Advertised, Engineering News, May 5 and 12.
May 16. Highway (15 miles), Rockville, Ind. ....May 5
May 16. Hatchery, etc., Nashua, N. H. ....May 5
May 16. Shelter pavilion, Detroit, Mich. ....May 5
May 16. Sewers, Toledo, O. ....May 5
May 16. Bridge (100 ft. long), Chebalis, Wash. ....May 5
May 16. Aqueduct (14½ miles), Birmingham, Eng. ....May 5
May 16. Steam heating, etc., Springfield, Mass. ....May 5
May 16. Brick paving, Cincinnati, O. ....May 5
May 16. Library building, Newark, N. J. ....Apr. 21
May 16. Street bonds ($200,000), Camden, N. J. ....Apr. 28
May 16. Street bonds ($20,000), Alliance, O. ....Apr. 28
May 16. Road bonds ($40,000), Brazil, Ind. ....Apr. 28
May 16. Bridge, Sandusky, O. ....Apr. 28
May 17. Water line franchise, Los Angeles, Cal. ....Apr. 28
May 17. Pumping machinery, Albany, N. Y. ....Apr. 28
Advertised, Eng. News, Apr. 28 and May 5.
May 17. Hospital building, Newberry, Mich. ....May 5
May 18. Court house, Los Angeles, Cal. ....May 5
May 18. Extending water-works, etc., Prescott, Ariz. ....Mar. 31
May 18. Bridges (3), Chicago, Ill. ....Mar. 31
Advertised, Eng. News, Mar. 31 to Apr. 21.
May 18. Bridge, Chicago, Ill. ....Apr. 7
Advertised, Eng. News, Apr. 7 and 14.
May 18. Sewers, Prescott, Ariz. ....Mar. 31
May 18. Bridge, Forman, N. Dak. ....Apr. 28
May 18. Laying water pipe, Marshall, Mich. ....Apr. 28
May 19. Water-works, etc., Parnassus, Pa. ....May 5
Advertised, Engineering News, May 5 and 12.
May 19. Draw span, Beverly, O. ....May 5
May 19. Sewerage system, Parnassus, Pa. ....May 5
Advertised, Engineering News, May 5 and 12.
May 20. Railway, East Las Vegas, N. Mex. ....Apr. 28
May 20. Court house, Parsons, W. Va. ....Apr. 21
May 20. Water bonds ($12,000), St. Johnsville, N. Y. ....Apr. 14
May 21. Wooden hull, Montgomery, Ala. ....Apr. 21
Advertised, Eng. News, Apr. 21 to May 12.
May 21. Culvert and bridges (2), Cincinnati, O. ....Apr. 28
May 21. Miscellaneous supplies, West Point, N. Y. ....Apr. 28
May 21. School building, etc., White Earth, Minn. ....May 5
May 21. Hospital building, Fort Thomas, Ky. ....May 5
May 23. Brick paving, Marshalltown, Ia. ....May 5
May 23. Army officers' quarters, Herndon, Ala. ....May 5
May 23. Army officers' quarters, Savannah, Ga. ....May 7
May 23. Army officers' quarters, Galveston, Tex. ....May 5
May 23. Steel bridges (175 ft. long), Ellendale, N. Dak. ....May 5
May 23. Paving, East Liverpool, O. ....Apr. 28
May 23. Sewerage system, Marion, Ind. ....Apr. 28
May 24. Paving, Cleveland, O. ....Apr. 28
May 24. Brick paving, Cleveland, O. ....May 5
May 25. Lighting bonds, Madisonville, O. ....May 5
May 25. School building, Cedar Rapids, Ia. ....May 5
May 25. Bridge superstructure, Zuck, O. ....May 5
May 25. County bridges (9), Pembina, N. Dak. ....May 5
May 25. Water franchise, Ridgewood, N. J. ....Mar. 24
Advertised, Eng. News, Mar. 24 to Apr. 28.
May 26. Hospital building, Marshalltown, Ia. ....May 5
May 26. Improving roads (3), Pittsburg, Pa. ....May 5
May 26. Paving (3 streets), East Liverpool, O. ....May 5
May 26. Dredging, Sabine Pass, Tex. ....May 5
May 26. Sewers, Cleveland, O. ....May 5
May 27. Light and water bonds, Caldwell, O. ....May 5
May 27. Electric plant, Caldwell, O. ....May 5
May 27. Steel-hulled tenders (5), St. Louis, Mo. ....Apr. 28
Advertised, Eng. News, Apr. 28 to May 19.
May 30. Factory building, etc., Des Moines, Ia. ....Apr. 14
May 30. Stone paving, Toledo, O. ....May 5
May 31. Electric light plant, Malvern, Ark. ....Apr. 7
June 1. Cofferdam, masonry, etc., Chicago, Ill. ....Apr. 7
June 1. Electric railway, Zurich, Switzerland. ....Mar. 10
June 1. By-pass, etc., Chicago, Ill. ....Apr. 21
Advertised, Eng. News, Apr. 21 and 28.
June 1. Court house, Monticello, Ky. ....Apr. 21
June 1. Arc lights (50), Columbia, Tenn. ....Apr. 28
June 1. Stone flag and curb, Battle Creek, Mich. ....May 5
June 2. Electric lighting, Natchez, Miss. ....Apr. 21
June 6. Electric franchise, Gridley, Cal. ....Apr. 21
June 6. Paving, Toledo, O. ....May 5
June 7. Arc lights (50), Greenville, Miss. ....Apr. 28
June 8. County road, Bozeman, Mont. ....Apr. 21
June 18. Electric light plant, Fitzgerald, Ga. ....May 5
June 18. Water-works, etc., Fitzgerald, Ga. ....May 5
June 24. Electric plant, Hawthorne, Australia. ....Apr. 14
June 25. Railway bridge, Chicago, Ill. ....May 5
July 1. Water power, Madras, India ....Oct. 28
July 1. Plans for sewer system, Formby, Eng. ....Apr. 7
July 1. Plans for sewer system, Cohoes, N. Y. ....Apr. 28
Advertised, Eng. News, Apr. 28 and May 5.
July 15. Electric plant, Lamar, Colo. ....May 5
Aug. 31. Custom house, Guayquil, Ecuador. ....Apr. 21
Sept. 12. Hospital plans, San Francisco, Cal. ....Mar. 24
Oct. 24. Markets, etc., Belem, Brazil ....Apr. 28
No date. Light-house buildings, Oswego, N. Y. ....May 5
" . Dam, Paris, Tex. ....May 5
" . Brick paving, Ithaca, N. Y. ....May 5
Advertised, Engineering News, May 5 and 12.
" . Electric light plant, Lawrenceburg, Ky. ....May 5
" . Power plant, Sault Ste. Marie, Mich. ....Apr. 14
Advertised, Eng. News, Apr. 14 and 28.

RAILWAYS.

ABERDEEN & ASHBORO.—J. M. Bandy, Ch. Engr., Greensboro, N. C., informs us that the surveys have been completed for the extension of this railway from Troy to Mount Gilead, via Wadeville, N. C., a distance of 13.8 miles, and that the right of way has been obtained and the capital secured. The construction work will be done by Carpenter & Gibbs, who have already begun grading near Wadeville. Pres., A. F. Page, Aberdeen, N. C.

ARKANSAS & OKLAHOMA.—H. M. Frazier, Rogers, Ark., informs us that surveys for this line have been made from Bentonville, Ark., to Indian Territory. The completed line will run from East and West Seba to Gravatt, via Dixon, Ark., 200 miles. The company is doing the work, and at present has about 70 teams at work; four miles of grading have been completed. Pres., F. M. Bayliss; Ch. Engr., Frank Koresky, both of Bentonville, Ark.

BELLINGHAM BAY & EASTON.—J. J. Donovan, Gen. Supt., New Whatcom, Wash., informs us that this company contemplates the building of a 10-mile extension to its line into the timber district in Whatcom county, but that the time for commencing the work has not yet been decided upon.

CAROLINA MIDLAND.—E. E. Rutledge, Ch. Engr., Batesburg, S. C., writes us that 16 miles of railway are being built from Seivern to Batesburg. The grading, bridges and trestles have been completed and track is now being laid.

CHICAGO & WEST MICHIGAN.—J. J. McVean, Ch. Engr., Grand Rapids, Mich., informs us that no new improvements or extensions to its line are at present contemplated outside of the usual yearly work. A new interlocking plant may possibly be established in Detroit for the protection of 12th St. yard of the Union Terminal Association.

CHICAGO JUNCTION.—C. W. Hotchkiss, Ch. Engr., 628 Monadnock Block, Chicago, Ill., informs us that no further improvements are to be made to this line at present other than a new interlocking plant to be installed at North Harvey, Ill.

CHOCTAW, OKLAHOMA & GULF.—F. A. Moliter, Ch. Engr., South McAlester, Ind. Ter., informs us that the improvements and extensions being made or projected for this system are as follows: Extensions from Wister Junction to Howe, 7 miles, and from Fort Reno, Okla., to Custer county, 45 miles, which are under construction by the Bracey-Welles Construction Co., of Chicago, and J. W. Maney & Co., of El Reno, Okla., respectively; also an extension is being made from Shawnee to Stillwater, Okla., 70 miles, with a branch to Shaft No. 3 of the mine, 4½ miles from the main line, with 4 miles of yards to other new mines. Two girder bridges are being substituted for trestles, and four pile trestles are being filled in and four new pile trestles are being built. Two new stations will probably be erected.

CINCINNATI NORTHERN.—W. D. Williams, Ch. Engr., Van Wert, O., informs us that this company is now filling up 1,285 feet of old pile trestles. A new interlocking plant with the New York, Chicago & St. Louis R. R. at Latty, O., is contemplated, but it is not yet decided when work will be commenced.

CLEVELAND TERMINAL & VALLEY.—E. G. Lane, Engr., Cleveland, O., informs us that grading will be started within four weeks on an extension of the Huff's Run Coal mine branch four miles into Carroll county. New distributing yards are to be established at Brooklyn, O., at an estimated cost of $25,000; all the work to be done by the company. The 3-story brick and stone passenger station at Cleveland will probably be occupied June 30, and a train shed, 540 × 80 ft., will be added; estimated cost, $80,000. In addition to above work, the Variety Steel Works, of Cleveland, have contracted to erect a new steel freight station at West River St., Brooklyn, at a cost of $23,000.

COAHIULA & ZACATECAS.—Reports state that this railway has been completed and put in operation. The route is from Satillo, in the State of Coahiula, to a mining camp in the State of Zacatecas, about 85 miles distant. Pres., William Purcell; Ch. Engr., T. S. Abbott, both of Satillo, Mexico.

COW CREEK TRAM & RY.—D. Call, Pres., Call, Tex., writes us that no extensions are at present contemplated to this 21-mile line of railway in Texas, but that it is desired to purchase a light-weight standard gage switch engine.

DES ARC & NORTHERN.—W. H. Hipolite, Ch. Engr., Higginson, Ark., writes us that 15½ miles of this new line are nearly completed. The proposed road, which will be standard gage, will run from Des Arc to Higginson, Ark., a distance of 20 miles, and will be laid with a 54-lb. steel rail. Geo. C. Griffith, Pres.; Geo. B. Stone, Gen. Supt.; F. S. Belcher, Vice-Pres and Treas., all of Higginson.

DULUTH, MISSISSIPPI RIVER & NORTHERN.—I. N. Gray, Ch. Engr., Swan River, Minn., informs us that the work on the new 13½ mile extension of the mine branch of this line, which was let on February 1 to Williamson & Campbell, is being pushed as rapidly as frost will permit; it is to be completed by July 1. This extension is from Hibbing north as a logging road, and is being built on a light grade and easy curvature. At Hibbing there will be a trestle 1,200 ft. long and 35 ft. high, where the road crosses the Duluth, Missabe & Northern Ry.

EVANSVILLE, WESTLAKE & JENNINGS.—E. E. West, Pres., Westlake, Fla., informs us that four miles of new track have been laid, and it is expected to lay four miles additional towards Bellville, Fla. The work is done by the company direct.

GULF, BEAUMONT & GREAT NORTHERN.—John H. Kirby, Pres., informs us that this company expects to award contracts within 60 days for a 100-mile extension from Kirbyville to Tenaha, via Jasper, Tex. This company was organized in Houston, Tex., March 25, as stated in our issue of April 7, and is chiefly composed of officers of the Gulf, Beaumont & Kansas City R. R. Co.

GULF, COLORADO & SANTA FE.—C. F. W. Felt, Ch. Engr., Galveston, Tex., informs us that the improvements to this system now under way include the reduction of grade between Temple and Cleburne, Tex., a distance of 99 miles, at an estimated cost of $450,000; also the erection of a new passenger station at Houston, Tex., to cost $6,000, and a 24-stall stone engine house at Temple, to cost $22,000. New machine shops are expected to be built at Cleburne, at a cost of about $150,000, and bids for the erection of the same were to have been opened on April 27.

HOLLINS, HEFLIN & SYLACAUGA.—John L. Kaul, Gen. Mgr., Hollins, Ala., writes us that this company proposes to construct five miles of new line for logging purposes.

HOUSTON, EAST & WEST TEXAS.—E. B. Cushing, Ch. Engr. and Gen. Supt., Houston, Tex., informs us that several miles of grade reduction will probably be undertaken this spring, and about 25 trestles replaced by brick and pipe culverts and fill. Bids for this work will be received about May 31.

MANITOBA.—Reports state that Premier Greenway has announced that the Winnipeg & Southeastern Ry. will be subsidized at $8,000 a mile for 80 miles of its line, to eventually connect with the Ontario & Rainy River Ry.; and also that the Lake Manitoba Ry. & Canal Co. will receive the same bonus for 80 miles of railway towards the Saskatchewan River.

OGDENSBURG & LAKE CHAMPLAIN.—This railway was sold under mortgage foreclosure by W. H. Comstock, Master, of Utica, at Ogdensburg, N. Y., May 2, at $2,500,000, to Charles Parsons, Receiver, and others, 15 Broad St., New York.

ST. LOUIS & CENTRAL ILLINOIS.—We are informed that this company was chartered, April 25, with a capital stock of $1,600,000, to construct a railway from St. Louis, Mo., to Duvall, Ill., via Ramsey, a distance of 98 miles. The road will be of first-class construction, standard gage, and laid with 80-lb. steel rails. Surveys are partially completed. In connection with the Illinois Central R. R. and Chicago & Eastern Illinois R. R., the road will create two direct routes between St. Louis and Chicago, besides developing the most extensive coal field contiguous to St. Louis. The incorporators and the first board of directors are: A. A. Barnes, Indianapolis, Ind.; William B. Dean, St. Louis, Mo.; E. D. Waddell, East St. Louis, Ill.; J. S. P. Gordon and G. A. Wilson, Pres.

SIAM.—Bids will be received, according to reports, for supplying 2,500 tons of Bessemer steel rails, 105 tons of dogspikes of iron, 160 tons of fishplates of mild steel, 25 tons of bolts and nuts of iron, two tons of spring steel washers and 68 tons of bearing plates of mild steel for the Royal Railway Department. Information may be obtained from A. S. Moss-Blundell, C. E., 28 Victoria St., Westminster, London, England.

STREET AND ELECTRIC RAILWAYS.

CONCORD, N. H.—The Concord St. Ry. Co. has been granted a permit to change the location of its tracks in this city. Pres., J. A. Albin.

MONTPELIER, VT.—F. C. Kennedy, J. J. Flynn and A. O. Humphrey are said to be interested in the proposed Mad River Electric Railway from this place to Warren. Arrangements preparatory to construction are being considered.

WEBSTER, MASS.—It is reported that the directors of the Webster & Dudley St. Ry. Co have awarded the contract for the construction of its line to F. T. Ley & Co., of the Springfield Construction Co., at about $40,000. There were five bidders. The contract requires that portion between the railway crossing and the Lake and the east village line be completed on or before May 27, while the remaining portions must be finished within the next 30 days following. Treas., John Flint, of Webster.

WORCESTER, MASS.—Reports state that franchises have been granted for the extension of the Consolidated St. Ry. through Middlebury, North Grafton and Grafton, a distance of 10 miles. Work is expected to begin at once, and the roads will be opened in the fall; estimated cost, $150,000. Pres., Chas. B. Pratt; Supt., J. N. Akarman.

PUTNAM, CONN.—The directors of the Putnam & Thompson St. Ry. Co. have declared their intention to proceed as rapidly as possible with the surveys and construction of this proposed line. Pres., Geo. T. Nichols, Putnam; Secy., Robert L. Warren, 53 State St., Boston, Mass.; Treas., Van Wyck Rossiter, New York.

BALDWINSVILLE, N. Y.—The Onondaga Lake R. R. Co. was granted a franchise, April 25, to build a line to Syracuse. W. M. Mullin, Village Clk.

BROOKLYN, N. Y.—It is announced that contracts have been executed between the Brooklyn Heights R. R. Co. and the Brighton Beach Racing Association by which a complete change will be made in the operation and in a portion of the equipment of the Sea View Elevated R. R., running from West Brighton to Brighton Beach, Coney Island, and controlled by the Heights company. This will necessitate an abandonment of the former scheme of the trolley road to run the Sea View as an independent elevated system this year, as the principal portion of the new plan contemplates the equipment of the road electrically and the operation of trolley cars. An inclined plane will be built at the east end of the Boulevard, on property controlled by the Racing Association, and the trolley cars will run along this point on grade until it finally reaches the terminal at Brighton Beach. The old terminal here will be torn down and a new one built. Pres., C. L. Rossiter, 168 Montague St.

BUFFALO, N. Y.—The Buffalo & Lockport Ry. Co. has been incorporated, with a capital stock of $1,000,000, to operate a street surface railway from Buffalo to Lock-

port. The directors are: Burt Van Horn, H. J. Pierce, R. L. Fryer and G. H. Dunbar, of Buffalo; J. A. Merritt, S. Curtis Lewis and F. M. Ashley, of Lockport, N. Y.; F. A. Dudley and W. Cayl Ely, of Niagara Falls, N. Y.

LOCKPORT, N. Y.—C. A. Brunn, Div. Supt. Erie R. R., Buffalo, has formally announced that the Buffalo & Niagara Falls Electric R. R. Co. has leased the Lockport Branch of the Erie, between Lockport and Buffalo, for a term of years, and that the road will be converted into an electric line. Burt Van Horn, Gen. Mgr., Niagara Falls, N. Y.

NEW ROCHELLE, N. Y.—C. W. S. Wilson, Village Engr., informs us that Naughton & Co., 258 Broadway, New York, have been awarded the contract for reconstructing and building the present line and extensions of the Westchester Electric Ry. Co. in this village. The length of the new line will be about eight miles, half of which is double track. The construction will be of nine-inch grooved girder rails, 60 ft. in length. The company will pave between the rails and 2 ft. outside with repressed vitrified shale brick on a 6-in. concrete foundation. Ties and rails are being distributed along the route. The Westchester Electric Ry. Co. is said to be controlled by the Third Ave. R. R. Co. and the Union Ry. Co., and the franchise under which work will be done was granted about March 1.

SYRACUSE, N. Y.—Wing T. Parker, Pres. Syracuse, Skaneateles & Moravia R. R. Co., Moravia, N. Y., informs us that the preliminary surveys have been made and about one-half the right of way obtained for the proposed electric line from Moravia to Syracuse, via Niles, Owasco, Skaneateles and Marcellus, a distance of 43 miles. Contracts will be let after completion of the permanent surveys. J. W. Ackerman, Ch. Engr., Moravia. Notice of the incorporation of this company was published in our issue of last week.

TROY, N. Y.—The Commissioners of Miami county have granted the right of way and a 25-year franchise to the Troy, Tippecanoe & Dayton Interurban Electric Ry. Co. The line must be completed by Jan. 1.

UTICA, N. Y.—The Utica Suburban Ry. Co. secured a franchise, April 27, for the construction of an extension from the West Shore R. R. Co.'s tracks to Glen Park, a distance of about 1½ miles. Construction is to begin at once. Pres., John W. Boyle.

BETHLEHEM, PA.—It is reported that the differences between the Easton, Palmer & Bethlehem St. Ry. Co. and this borough have been adjusted, and that a belt line will be constructed. Engr., L. A. Francisco, 441 North Hampton St., Easton, Pa. The Worcester Construction Co., of Worcester, Mass., is said to have received the contract for general construction.

CHESTER, PA.—The Chester & Delaware St. Ry. Co. was incorporated, April 29, with a capital stock of $100,000, with $1,000 paid in, to construct and operate a street railway from Chester to the state line. The incorporators are Percy H. Clark and Wm. C. Walt, of Germantown, Philadelphia; C. Ford Stevens and Wm. L. Chrisman, of Philadelphia, Pa.; Clarence Sill, Darby, Pa.

PITTSBURG, PA.—Reports state that about $250,000 will be spent this year in the further improvement of the Manchester and Pleasant Valley lines of the United Traction Co.'s system. Pres., James D. Callery.

FREDERICK, MD.—The Frederick, Thurmont & Northern Electric Ry. Co. has been organized at this place to build an electric line from Frederick to Gettysburg, via Emmitsburg and Thurmont. Pres., L. V. Baughman; Secy., Chas. B. Waters; Engr., R. A. Rager. W. L. O'Hara, Pres. Mount St. Mary's College, of Emmitsburg, is one of the directors.

CHARLESTON, S. C.—Contracts are stated to have been let for constructing the proposed Charleston & Seashore Ry., to be ten miles in length. Henry Oliver has the contract for building the power-house.

SAGINAW, MICH.—The receivers of the Union St. Ry. Co. have been authorized to borrow $10,000 to be used towards the repairing of the line. Secy., L. T. Durand.

CHICAGO, ILL.—John McNulta, Receiver of the Calumet Electric St. Ry. Co. filed a petition, April 28, before Judge Showalter, of the United States Circuit Court, asking permission to expend $60,000 in the improvement of the plant and the purchase of additional property for a terminal loop and transfer system at 63d St. and Stony Island Ave. The petition was granted by the court.

WAUKEGAN, ILL.—It is announced that the Bluff City Electric Ry. has been purchased by W. T. Ball, of Muncie, Ind., and that the road will be completed from this city to Highland Park.

ST. LOUIS, MO.—The St. Louis County Court, April 26, granted a franchise to the St. Louis, Clayton & Creve Coeur Lake Ry. Co. for the construction and operation of electric railways which will connect with the Lindell Ry. Co.'s Dalmar Ave. line, the Midland line and the Forest Park and Clayton line which is to be extended to Creve Coeur Lakes. It is expected to have all work completed by August 1. Secy., James Adkins.

DETROIT, MICH.—The Chase Construction Co., of Detroit, according to reports, has been awarded the contract for the entire overhead and electrical construction on the proposed Chicago, Toledo & Detroit R. R. from Detroit to Toledo, O., a distance of 60 miles. Pres., J. C. Shaffer, of Chicago, Ill. It is said that the construction company, of which Geo. E. Fisher is president, will begin work in about 60 days.

BUTTE, MONT.—The Silver Bow Ry. Co., which is constructing the electric line to Walkerville, contemplates the building of about four miles of street railway in this city, which will connect with the principal mines; estimated cost, $20,000.

ELECTRIC LIGHT AND POWER.

WINOOSKI, VT.—We are informed that the project for developing the water power at this place, owned by Edwards & Stevens, noted in our issue of last week, is only being considered.

CHICKOPEE, MASS.—The council has let a contract to the General Electric Co., Schenectady, N. Y., for furnishing a dynamo for the plant at $1,910. Other improvements to the plant will probably be made at a total cost of $2,600. Geo. D. Eldredge, Mayor.

INDIAN ORCHARD, MASS.—Press reports state that the Indian Orchard Co. has let the contract for putting in the new 900-HP. water wheel at the end of the canal, above the light station, to J. & W. Jolly, Holyoke, Mass. This is to replace the present 500-HP. wheel which is in the main building now, and the power will be distributed by electricity. The water, which has gone to waste with the present wheel, and the further fall will allow the additional 400 HP. The contract for the steel penstock, wheel casing and draft tube has been sublet to the Walsh Steam Boiler Works, Holyoke. The contract calls for about 75 ft. of ⅜-in. steel tubing 10 ft. in diameter for the penstock.

PALMER, MASS.—The Central Massachusetts Electric Co. has let the contract for rebuilding its burned plant to the Flynt Building and Construction Co., Palmer. It will be 42 × 80 ft. It is not stated whether the contract for the machinery has been let. Mgr. and Purchasing Agent, E. H. Rollins.

NARRAGANSETT PIER, R. I.—The Narragansett Pier Electric Lighting & Power Co. proposes to put its wire under ground in 16 miles of streets, at a cost of about $500,000. G. P. Magner, Treas. and Purchasing Agent.

TORRINGTON, CONN.—The Excelsior Needle Co. proposes to purchase a 2,000-light dynamo, according to reports.

CHARLOTTE, N. Y.—The Stanwix Engineering Co., Rome, N. Y., has been employed to prepare plans, etc., for a plant to cost $10,000 and water-works to cost $25,000. The question of issuing bonds was voted upon May 4. Bids for the work will soon be asked.

LITTLE VALLEY, N. Y.—S. L. Sweetland, Secy., writes us that the village does not expect to build the proposed plant and water-works this year.

LOCKPORT, N. Y.—We are informed that the Lockport Gas & Electric Light Co. will increase the capacity of its plant. Supt. Edwin Witherby, 109 Main St.

NEW YORK, N. Y.—The New York Finance & Construction Co., 141 Broadway, New York, has in course of construction, at this time, hydraulic and steam plant for the government at Fort Hancock, Sandy Hook, N. J., and has on hand three other government jobs for which it is in the market for machinery, namely: The steam and electric plant at Fort Washington, Md.; the engine installation and lighting plant for the Plum Island (N. Y.) fortifications; also the complete generating and piping installation in the post office at Pittsburg.

ONEIDA, N. Y.—Judson W. Warner has been granted permission to erect lines in this city. It is stated that he has let the contract for furnishing the machinery, etc. Two reservoirs will probably be built.

SILVERCREEK, N. Y.—An election will be held May 10 to vote on the question of awarding a contract to the People's Electric Light & Power Co. for furnishing 37 arc lights.

WHITESBORO, N. Y.—Wm. G. Stone, Engr., 8 Herald Bldg., Utica, N. Y., writes us as follows in regard to the proposed plant for this place: "The village is now lighted under contract with the Utica Electric Light Co., Utica, N. Y. Two projects are now under consideration. One the building of a plant to be owned and operated by the village, the other the installation of a plant owned by a private company, who proposes to furnish light and power at a stated contract price. Either plan will involve the purchase of complete equipment for a steam operated plant."

WHITE PLAINS, N. Y.—Adolph Reimer, Treas. Dover Electric Light & Power Co., writes us that the proposed plant will have a capacity of 25 arc and 2,500 incandescent lights; estimated cost, $40,000. There will be required compound condensing Corliss engines, one arc machine of 50 light capacity, one alternator. No contracts have yet been let.

WILKES-BARRE, PA.—The Wilkes-Barre Electric Light Co., it is reported, will build a sub-station in North Wilkes-Barre to be 25 × 217 ft. Work will be completed in about six weeks. Supt., Thos. W. O'Brien.

ELLICOTT CITY, MD.—The question of lighting this place with arc lights is being considered. Mayor, Jacob J. Werner. Incandescent lights are at present furnished by the Ellicott City Electric Light Co. L. N. Getz, Mgr. and Purchasing Agent.

WILLIAMSBURG, MD.—M. E. Cullen, Town Treas., writes us that nothing definite has yet been taken in regard to the proposed plant and water-works. It is probable that with the appointment of a board of supervisors the construction will be begun. The board has not yet been named by the burgess.

GREENSBORO, N. C.—W. H. Houghton has been granted permission to erect a plant. Population, 10,000.

ALBANY, GA.—J. W. Curtin, Mgr., writes us that the city voted, April 18, to purchase the plant.

FITZGERALD, GA.—Bids are asked until about June 18 for constructing a plant and water-works to cost about $33,000. Martin Scott, Alderman, and C. C. Goodnow, Mayor, may be addressed.

OCALA, FLA.—It is stated that the committee is asking for bids for furnishing and erecting a plant.

McCOMB, MISS.—C. C. Jarvis, Mayor, writes to us that an election will be held May 9 to vote on the question of building the proposed water and light plant to cost $60,000. (Postponement from April 18.) Des. Engrs., Sanders & Porter, Columbia Bldg., Louisville, Ky., and Brookhaven, Miss.

LEXINGTON, TENN.—H. E. Graper is reported as interested in a proposed plant for this place.

MEMPHIS, TENN.—Bids are asked until May 12 for furnishing electric light plants at the new city hospital and the new market house. The following will be required: One engine and dynamo (direct coupled) capable of producing 375-10 c. p. 110 volts direct current incandescent lights, including foundations for engine and dynamo, rheostat, voltmeter, ammeter, switchboard, main-line switch and wiring from main line to switchboard; also steam connections from present steam line to engine, etc.; also 400 110 volt 10 c. p. incandescent lamps, one engine and dynamo, belted to engine flywheel, including belting, etc.; one boiler, engine and dynamo (direct coupled) capable of producing 400 100 volt 10 c. p. incandescent lights, including foundations, steam connections and all material, etc., and one boiler, engine and dynamo belted to flywheel of engine, including belt from engine to dynamo, etc., and for furnishing complete plant capable of producing 200 110 volt 10 c. p. incandescent lights. W. B. Armour, Secy. Fire Comrs.

LAWRENCEBURG, KY.—Bids are asked for furnishing and erecting a plant. J. W. Waterfill, Clk. Council.

LOUISVILLE, KY.—The treasury department received the following bids April 26 for furnishing and installing a plant at the post office building in this city: West Engineering Co., New York, $4,405 for steam plant; A. C. Lucas, Baltimore, $1,965 for dynamo; Western Electric Co., Chicago, $5,485 for switch board and wiring; L. D. Carter, Louisville, $18,949, complete. Walker Co., Cleveland, O., $12,415, complete.

SULPHUR, KY.—Jas. A. Givlden is reported as making arrangements to put in a plant at his saw mill.

CALDWELL, O.—Bids are asked until May 27 for furnishing a plant to cost $7,600, and also for the purchase of $9,000 of 6% light and water bonds. The plant will have an 80-HP. engine, a 30-arc light machine, etc. Consult. Engr., L. E. Chapin, Canton, O.; Village Clk., A. Michael, Jr.; Mayor, Arthur O. Archer.

MADISONVILLE, O.—Bids are asked until May 25 for the purchase of $2,500 of bonds for extending the plant and water-works, according to reports. Bennett Carter, Village Clk.; J. N. Mitchell, Pres. Comrs.

BRISTOL, IND.—Wm. M. Sullivan, Town Clk., writes us that the trustees have given up the question of building a plant and water-works at present, noted in our issue of last week.

FORT WAYNE, IND.—The National Conduit & Cable Co., 41 Park Row, New York, has been awarded the contract for putting in the conduit for the Jenney Electric Light & Power Co. on Calhoun St., at about $25,000.

RICHMOND, IND.—J. S. Ostrander, Mayor, writes us that a committee has been appointed to investigate the question of a municipal plant. S. W. Gillian, Chn. Com.

DETROIT, MICH.—Local papers state that the property of the Mutual Electric Light Co., formerly the Peninsular Electric Light Co., will be sold at auction June 7 by Circuit Court Commissioner Hursot. Clarence A. Block and E. W. Pendleton are among those interested.

ST. LOUIS, MICH.—The board will probably offer for sale the $20,000 of 4 % 10 to 30 year bonds for the proposed plant in June.

SIDNAW, MICH.—It is reported that the electric plant and mill belonging to Corbin & Mead were destroyed by fire last week, causing a loss of about $45,000.

FOUNTAIN CITY, WIS.—P. H. & F. Roettiger write us that they have concluded to put in a plant of 1,000 incandescent lights, and are ready to receive bids for furnishing the machinery, etc. It is probable that six arc lights of 1,200 c. p. for city use will be put in.

SOUTH MILWAUKEE, WIS.—We are informed that the city has purchased the plant of a private company. No improvements will be made, except possibly a new building and transfer of machinery.

MONTGOMERY, MINN.—The question of building a plant is reported as being considered by private parties.

MADRID, IA.—E. L. Leslie proposes to build a plant, according to reports.

DULUTH, MINN.—The council is considering a resolution asking for bids for constructing a municipal plant. It will have 800 arc lights of 2,000 c. p. Councilmen Crowley and Krumsieg may be addressed.

MORA, MINN.—J. C. Morrison has applied for a franchise, according to reports.

MANDAN, N. DAK.—C. E. Draper & Co. inform us that they expect to put in a plant of 400 to 500 incandescent lights capacity. It is probable work will be begun in about 30 or 60 days.

MOUNT VERNON, MO.—L. Jordan, Supt. Water-Works, writes us that bids will be received about June 1 for constructing a plant, to cost about $3,000. It will have 20 arc and 500 incandescent lights. The new council will probably ask for bids soon for the purchase of the bonds and for the work. There will be required two dynamos, an engine and six miles of wire. The plant will be operated in connection with the water-works.

WASHINGTON, MO.—We are informed that A. A. Tible has been awarded the contract for a plant for this city. It will have 32-c. p. incandescent lights.

COLORADO SPRINGS, COLO.—Geo. W. Jackson writes us that at present no information can be given in regard to the proposed plant.

LAMAR, COLO.—Bids are asked until July 15 for furnishing the machinery, etc., for the proposed plant. Bent & Strain inform us that it will have about 10 2,000-c. p. arc and about 400 16-c. p. incandescent lights; estimated cost, $4,000. A 25-year franchise was recently granted to the Lamar Light & Power Co. The plant will be in operation Nov. 1.

VENTURA, CAL.—It is stated that the trustees have passed a resolution to postpone the question of building a plant.

GRANGEVILLE, IDAHO.—It is reported that this place is considering the question of building a plant.

ACTON, ONT.—The council is reported as considering a proposition from the Stayner Electric Light Co. for lighting this place.

TORONTO, ONT.—The board of control has voted to ask for bids for constructing plants of 2,000 and 6,000 HP. each. C. H. Rust, Cy. Engr.

HAMILTON, ONT.—It is stated that the Hamilton Electric Light & Power Co. is building a plant of 5,000 HP. at St. Catharine's. The power will be transmitted to this city, 39 miles distant. The power house will be 40 × 180 ft. Mgr., D. Thompson.

MEXICO, MEX.—The Westinghouse Electric & Mfg. Co., Pittsburg, Pa., has closed a contract for 20 300-HP. two-phase 400-volt generators, with switchboard and raising transformers, for the San Ildefonso-Tlalnepantla Transmission system, near Mexico. The current will be utilized for lighting and power in the city. The generators are to be direct-connected to water wheels. Transmission will be three phase, at 22,000 volts. The terms of the contract call for its completion by March 1, 1899.

BANGALORE, INDIA.—Press reports state that S. R. Best & Co., of the Universal Agency, Bangalore, India, want catalogues of electric machinery, etc.

NEW COMPANIES.—Barnesboro Electric Light Co., Barnesboro, Pa., $1,000, of which $100 is paid in; George W. Ziegler, Phillipsburg, Pa.; J. T. Shuger, Chester Hill, Pa.; John Barnes, Treas., Barnsboro; Alfred Tucker, Philadelphia.

Citizens' Compress & Warehouse Co., Lexington, Okla., $25,000; to build a compress, a gin and an electric light plant; G. Joeger, Rich Mills, Mo.; F. C. O'Neil, L. J. Mittinger, S. F. Sharp, Purcell, Okla.; G. W. Abernethy, William James, Lexington.

Magnetic Electric Light & Power Co., Memphis, Tenn., $10,000,000; to engage in the making and supplying of light and power by electricity produced by magnet; it will also do any and all business pertaining to electric light and power. M. E. Carter, F. W. Brode, B. M. Stratton, W. C. Bridges, H. F. Robinson.

Union Electric Power & Light Co., Copperopolis, Cal., $1,000,000, to divert power from the Stanislaus River and to furnish power and light for mines and towns. O. Ames S. Carr, Boston, Mass.; G. McW. Ross, B. Johnson, Copperopolis; F. D. Nical, Stockton.

BRIDGES.

BOSTON, MASS.—Bids are asked until May 12 for constructing a draw span and two spans of steel superstructure for the Charlestown bridge, as stated in our advertising columns. B. Leighton Beal, Secy. Boston Transit Comn., 20 Beacon St.

CAMBRIDGE, MASS.—O. J. Brandon writes us that it is proposed to construct a truss bridge 100 ft. wide on pile foundation across the Charles River between Cambridge and Boston. William Jackson, Cy. Engr.

BUFFALO, N. Y.—Bids are asked by the grade-crossing commission until May 10 for constructing the superstructure of a viaduct over the railway tracks at the Hainsburg St. crossing and at the Seneca St. crossing. Frank S. E. Bardol, Ch. Engr.

BROOKLYN, N. Y.—Reports state that plans are being prepared by Commissioner Shea for a new bridge across Newtown Creek, from Manhattan Ave., Brooklyn, to Vernon Ave., Long Island City. The structure is to be a steel draw bridge 290 ft. long by 52 ft. wide, operated on

a center pier with viaduct approaches at both extremities, estimated cost $400,000. A temporary structure will be erected during the construction.

NIAGARA FALLS, N. Y.—Plans have been approved by the Niagara commissioners of state reservation for the construction of a stone arch bridge from Goat Island to the first Sister Island, estimated cost $15,000. Andrew H. Green, Pres.; Thos. V. Welch, Supt.

PITTSFORD, N. Y.—A bill appropriating $19,000 for the construction of a bridge at Main St., over the Erie Canal, has been signed by the governor.

PENN YAN, N. Y.—The bridge over the outlet at Lake Kenka, at the foot of Liberty St., will be repaired at a cost of $1,500, according to reports. Geo. W. Aldridge, Supt. Pub. Wks., Albany.

SYRACUSE, N. Y.—A bill has passed the legislature appropriating $7,500 for the construction of a hoist bridge at Catherine St.

ASBURY PARK, N. J.—The county freeholders have decided to construct an iron bridge across Sunset Lake at Grand Ave., estimated cost $30,000.

HOBOKEN, N. J.—The board of freeholders has directed Edlow W. Harrison, Ch. Engr., Fuller Bldg., Jersey City, to prepare plans for a viaduct to be constructed over the Erie R. R. Co.'s tracks at Park Ave.

PITTSBURG, PA.—Bids are asked until May 5 for reconstructing the Forbes St. bridge and reflooring the bridge across the Monongahela River at Smithfield St. Edward M. Bigelow, Dir. Dept. Pub. Wks.

PITTSBURG, PA.—Bids for the construction of the south pier of the Ferry St. bridge will soon be asked. E. K. Morse, Engr., Carnegie Bldg.

NANTICOKE, PA.—B. F. Griffith, Borough Secy., informs us that three bridges will be constructed in November, for which the council will ask for an appropriation at that time.

BENWOOD, W. VA.—The Bellaire Bridge Co., Benwood, has been incorporated with a capital stock of $500,000 with $100 paid in to construct and maintain a bridge across the Ohio River. The directors are: Wm. C. Jute, Pittsburg, Pa.; Chas. Rosser, Bellaire, O.; J. H. McCrady, Rankin Borough, Pa.; Jas. Hastings, Allegheny City, Pa.; Wm. C. Caldwell, Wheeling, W. Va.

ELBERTON, GA.—W. C. Jones, Pres. Bd. Trade, Elberton, informs us that two steel bridges will be constructed this summer, 160 ft. and 200 ft. long, respectively, on stone foundation. Hall Bros., Des. Engrs., Atlanta.

MACON, GA.—An effort will be made to have the city construct a new bridge across the river at Fifth St., East Macon.

KNOXVILLE, TENN.—A contract was awarded April 21 by the county commissioners to Doyle, Griffith & Co. at $3,826 for constructing the approach to the new bridge spanning the Tennessee River.

ALLIANCE, O.—The county commissioners awarded a contract, April 30, to the Canton Bridge Co., Canton, at $7,498, for constructing the iron superstructure of a bridge 110 ft. long and 18 ft. wide over the Mahoning River.

ZUCK, O.—Bids are asked until May 25 for constructing the iron superstructure of a bridge over the Kokosing River of two spans 115 ft. each and 14 ft. wide, surety $500. W. A. Wander, County Audr., Mount Vernon.

BEVERLY, O.—Bids are asked until May 19 for constructing a new draw span to the bridge over the Muskingum River. W. A. Patterson, County Audr., Marietta.

INDIANAPOLIS, IND.—Reports state that the following contracts were let by the county commissioners April 20: Chicago Bridge & Iron Co., steel girder bridge over the canal at Belleview, $1,469; James B. Nelson, steel girder bridge at Shelby St., over Bean Creek, $1,250; J. D. Adams & Co., iron bridge over Buck Creek, in Perry township, $2,710.

DETROIT, MICH.—Reports state that the Windsor & Detroit Bridge Co., incorporated by Charles M. Hays and George B. Reeve of the Grand Trunk Ry. and representatives of the Wabash Ry., have been authorized to construct a bridge across the Detroit River.

CHICAGO, ILL.—Bids are asked by the board of trustees of the sanitary district, until June 25 for the construction of an eight-track railway bridge at Campbell Ave., over the Main Drainage Channel, surety $3,000. James Reddick, Clk., Security Bldg.

DECATUR, ILL.—Bids are asked until May 7 for the construction of a brick and steel superstructure of a highway bridge 100 ft. long and 16 ft. wide over Stevens' Creek. Hezekiah Hays, John H. Miller, Jacob Lebo, County Bridge Comr.; Prof. Ira O. Baker, Consult. Engr., Champaign.

OSHKOSH, WIS.—Bids are asked until May 10 for the construction of an iron bridge at Sawyer Ave., according to reports. Casper Flour, Chn. Bd. Pub. Wks.

MILWAUKEE, WIS.—An ordinance has been introduced in the council for the construction of a new bascule bridge at Broadway, estimated cost $65,000. Alderman Corcoran may be addressed.

ST. PAUL, MINN.—The bridge committee is considering the question of constructing a new bridge at Summit Ave., estimated cost $25,000. L. W. Rundlett, Cy. Engr.

BOZEMAN, MONT.—Bids are asked until May 9 for the construction of a wooden truss bridge of two spans of 140 ft. each, on tubular piers. H. P. McNaughton, County Clk.

ALEXANDRIA, S. DAK.—Bids are asked until May 14 for constructing a bridge 64 ft. long and 17 ft. wide over Enemy Creek, in Rosedale township, according to reports. E. T. Gregory, County Audr.

ELLENDALE, N. DAK.—Bids are asked until May 23 for the construction of a 175-ft. × 16-ft. steel bridge across the James River, according to reports. S. V. Saunders, County Audr.

PEMBINA, N. DAK.—Bids are asked until May 25 for the construction of nine county bridges, according to reports. Donald Thompson, County Audr.

CLEARMONT, MO.—Bids are asked until May 6 for building a steel span bridge 96 ft. long over the Nodaway River, north of here. James Young, County Bridge Comr., Maryville.

TOPEKA, KAN.—C. T. McLellan, Receiver Leavenworth, Topeka & Southwestern Ry. Co., informs us that three new trestles will be constructed.

CHEHALIS, WASH.—Bids are asked until May 16 for constructing a 100-ft. bridge and approaches over the south fork of the Newaukum River. Albert Schooley, County Audr.

WILBUR, WASH.—Eugene Dettloff, County Comr., has been appointed a viewer to consider the proposed construction of a bridge across Crab Creek.

LOS ANGELES, CAL.—It is reported that bids will soon be asked by the Los Angeles Traction Co. for the construction of a viaduct 1,500 ft. long.

OAKLAND, CAL.—C. K. King, Receiver and Gen. Mgr. California & Nevada R. R., informs us that four new bridges will be constructed.

STOCKTON, CAL.—It is reported that bids will soon be asked by the county supervisors for constructing a steel bridge over the south fork of the Mokelumne River, near this place.

CALDWELL, IDAHO.—Bids will soon be asked by the county commissioners for constructing a bridge across the river near here, according to reports.

BUILDINGS.

NASHUA, N. H.—Bids are asked by the U. S. Commission of Fish and Fisheries, Washington, D. C., until May 16, for the construction of a hatchery, workshop and icehouse at this place. Comr., Geo. M. Bowers.

WINCHESTER, MASS.—A new brick and marble stable will be erected in this town for Edward Ginn, Tremont Place, Boston, Mass., according to reports, at a cost of $50,000. Arch., Ernest Flagg, 15 Broad St., New York.

SPRINGFIELD, MASS.—Bids are asked until May 16 for the furnishing of an engine, steam heating, etc., in the new laundry building at the city almshouse. L. D. Robinson, Chn. Com.

DANBURY, CONN.—It is reported that plans are being prepared for a new court house and that they will soon be submitted to the people at a special town meeting. Arch., Warren R. Briggs.

BROOKLYN, N. Y.—Plans have been accepted, according to reports, for the new building for the Greene Ave. Presbyterian Church, to cost about $40,000. Arch., Halstead P. Fowler, 280 Broadway, New York.

NEW YORK, N. Y.—Plans are being prepared, according to reports, for a new 12-story brick, stone and terra cotta office building, to replace the Nassau Chambers Building, 114 and 116 Nassau St., which was recently burned. Owner, Levi P. Morton, 40 Nassau St.; Archs., Clinton & Russell, 32 Nassau St.——Plans have been prepared for two large iron platforms and two iron foot bridges to be built by the Manhattan Elevated R. R. Co. on its line between 2d and 3d Aves., at 129th St. John Waterhouse, Ch. Engr., 195 Broadway.——The City & Suburban Homes Co., 281 4th Ave., contemplates the erection of eight 6-story model tenement buildings at 1st Ave. and 64th and 65th Sts., to cost about $500,000. Pres., Dr. E. R. L. Gould; Arch., Jas. E. Ware, 489 4th Ave.——Plans have been filed by Alonzo B. Kight, Owner and Arch., 102 West 81st St., for two 4-story brick dwellings on 72d St., near Columbus Ave., to cost $110,000; by J. N. Ferguson, 253 Broadway, for a 10-story brick business building at 5th Ave. and 120th St., to cost $150,000. Arch., D. D. King, 111 5th Ave.

TROY, N. Y.—We are informed that estimates have been received by the managers of the Samaritan Hospital Association of Troy for the erection and completion of a 2-story stone and brick annex to be known as the "Price Memorial;" estimated cost, $20,000. Archs., Cady, Berg & See, Jackson Bldg., New York.

OSWEGO, N. Y.—Bids will be asked for the construction of the buildings for Carlton Island Light Station. Major W. S. Stanton, U. S. Engrs., Oswego.

WEST NEW BRIGHTON (S. I.), N. Y.—Plans have been completed, according to reports, for a new church building to be erected at Castleton and Berger Aves., for the Sacred Heart Roman Catholic Church, to cost $50,000. Pastor, Wm. C. Poole; Archs., O'Connor & Metcalf, 108 Fulton St., New York.

NEW BRUNSWICK, N. J.—It is reported that the board of education has passed a resolution to ask the voters of this school district to authorize the erection of a 2-story 12-room school building at French and Lewis Sts., at a cost not to exceed $35,000. Bonds will be issued to pay for the improvement.

JERSEY CITY, N. J.—Competitive plans and specifications are being received by the Free Public Library for a new library building to be erected in this city. Pres., L. J. Gordon.

PHILADELPHIA, PA.—The Pennsylvania R. R. Co. has been granted a permit to build a new 2-story, iron frame ferry house, 327 × 140 ft., at the foot of Market St. on Delaware Ave., estimated cost, $250,000.——Reports state that Abner H. Mershon has bought the site at 1530 Spruce St., 22 × 93 ft., and that he will erect thereon a 9-story brick addition to the adjoining apartment building, at a cost of about $125,000.

WEST CHESTER, PA.—Reports state that the grand jury has declared the advisability of erecting a new asylum building at this place, to cost about $90,000.

BALTIMORE, MD.—We are informed that plans have all been prepared and that bids are now being received for a new theatre building to be erected in this city for A. C. Miller. The building will be of pressed white brick and terra cotta, and its dimensions will be 72 × 192 ft.; reported cost, $50,000. Archs., Goodrich & Goodrich, 31 Central Savings Bank Bldg., Baltimore.——G. W. Walther & Co., of Baltimore, have been awarded the contract for the plumbing work for the new court house, using brass piping, at $46,827.

WASHINGTON, D. C.—A bill has been introduced in the Senate providing for a new city hall building to cost about $2,500,000. Plans are to be open to competition, a commission calling on ten architects of ability to submit designs, and the compensation for accepted drawings to be 3% of the cost of the building exclusive of heating, ventilating, electrical and plumbing apparatus. The other competing architects are to receive $500 each. The bill carries with it the immediate appropriation of $10,000.——The Metropolitan Railroad Co. will shortly begin the erection of a brick and terra cotta railway waiting station, 27 × 54½ ft., on 36th St., between Prospect Ave. and N St. Arch., Appleton P. Clark, Jr., 605 F St., N. W.

SAVANNAH, GA.—Bids are asked by the chief quartermaster, Atlanta, Ga., until May 23, for the construction of two double sets officers' quarters, one double set staff officers' quarters, one barrack, one administration building, etc., at Tybee Island, Savannah.——The following bids were received by the supervising architect, Washington, D. C., April 27, for the interior finish, gas-piping and approaches for the U. S. Building in this city:

Jos. J. Churchyard, Buffalo, N Y.........	$85,694	8 months
Doyle & McCooch, Philadelphia, Pa.....	115,777	....
L. L. Leach & Son, Chicago, Ill.	95,000	8 months
Geo. Moore & Son, Nashville, Tenn.....	116,900	"
Henry Shenk, Erie, Pa..................	97,989	"
Wm Miller & Son, Pittsburg, Pa..........	99,596	"
Lewis D. Beaman, Cincinnati, O..........	130,385	"
Gude & Walker, Atlanta, Ga.............	105,950	"
E. F. Goebel & Co., Chicago, Ill.........	109,947	"
Miles & Brad, Atlanta, Ga..............	86,700	"
D. Getoz Co., Knoxville, Tenn.	92,800	"
Anderson Construction Co., St. Louis, Mo.	76,997	6 months
W. H. Ellis, New York..................	96,800	8 months
Richardson & Burgess, Washington, D. C.	93,000	"
Bayly, Koerner & Co., Louisville, Ky....	108,392	"

AUGUSTA, GA.—The Georgia R. R. Co.'s elevator and warehouse, capacity 150,000 bushels grain, occupied by Leroy Miller, and the warehouse of Bussey & Carswell, occupied by C. A. Doolittle, were burned May 1. The total loss is estimated at $200,000.

HERNDON, ALA.—Bids are asked by the chief quartermaster, Atlanta, Ga., until May 23, for constructing two double sets of officers' quarters, one barrack, one bakery, etc., at Fort Morgan, near Herndon.

FORT THOMAS, KY.—Bids are asked until May 21 for constructing a detached ward for the hospital building. Harry R. Lee, Q. M., Newport.

CINCINNATI, O.—We are informed that the following contracts were awarded April 26 towards the erection of the new Pearl St. market house, between Sycamore St. and Broadway: Archs., Samuel Hannaford & Sons: for the general construction, including plumbing, gas-fitting, electric light wiring, etc., L. P. Hazen, of Cincinnati, at $44,300; for bronze tablets, J. B. Schroder, at $350; for butchers' counters and blocks, Cincinnati Butchers' Supply Co., at $3,145; for refrigerators, with tile linings, C. Schmidt & Co., of Cincinnati, at $6,300.

DETROIT, MICH.—Bids are asked by the commissioners of parks and boulevards, until May 16, for constructing a stone and iron shelter pavilion in Belle Isle Park, at a cost of about $9,500. Pres., A. S. Parker.

NEWBERRY, MICH.—Bids are asked by the trustees of the Upper Peninsula Hospital for the Insane, at Newberry, until May 17, for the completion of a cottage for disturbed patients. Archs., Charlton, Gilbert & Demar, Camp Bldg., Milwaukee, Wis.

CHICAGO, ILL.—Bids are asked by the board of education, 1110 Schiller Bldg., until May 13, for erecting an addition to the O'Toole School Building, at 48th and Bishop Sts.——It is reported that plans have been prepared for a new building to replace the old Coliseum, at South Park Ave. and 24th and 25th Sts. Francis Hutchinson, 664 West Adams St., is said to be interested.

EAST ST. LOUIS, ILL.—Valentine Reis & Son, of Belleville, Ill., were awarded the contract, April 30, for the erection of the new brick and stone city hall building, at about $72,300.

LEWISTOWN, ILL.—Bids are asked by the supervisors of Fulton county, May 10, for the reconstruction of the interior of the county jail building. W. H. Boyer, County Clk.

GREEN BAY, WIS.—The lowest bid received for the construction of an addition to the state reformatory building, at this place, was that of Hinkley & Powers, Fond du Lac, Wis., at $29,880; the next lowest was that of the Hackworthy Construction Co., Appleton, Wis., at $30,396. Arch., John Charles, Menominee, Wis.

WAUKESHA, WIS.—Bids are asked by the board of public works, until May 9, for constructing a new high school building; estimated cost, $30,000. Henry Blair may be addressed.

CEDAR RAPIDS, IA.—Bids are asked, until May 25, for improvements to the Monroe School Building. E. J. C. Bealer, Chn. Com.

DES MOINES, IA.—F. C. Hubbell, Pres. Des Moines Ry. Co., informs us that this company expects to erect a new union station, 300 × 47 ft., built of terra cotta, stone and brick.

VINTON, IA.—O. H. Olsen, Stillwater, Minn., has been awarded the contract for erecting a new school building at this place, at $21,350.

MARSHALLTOWN, IA.—Bids are asked until May 26 for the erection and completion of a 2-story brick building, with stone foundation and slate roof, for an old people's home, at the Iowa Soldiers' Home at Marshalltown. Archs., Foster, Liebbe Co., Des Moines, Ia.

WHITE EARTH, MINN.—Bids are asked by the U. S. Indian Service, until May 21, for the erection on the White Earth Reservation of a brick school building, a laundry building, a dormitory, etc. Agent, John H. Sutherland.

AUBURN, NEB.—A special election has been called by the commissioners of Nemaha county for May 28, to vote upon the proposition of issuing bonds to erect a $50,000 court house and a $10,000 jail building.

ANACONDA, MONT.—Plans have been accepted for the new court house and jail buildings, to cost about $97,000. Archs., Bell & Kent, Helena, Mont.

PRESCOTT, ARIZ.—Bids are asked by C. W. Johnstone, Territorial Treas., until May 12, according to reports, for the purchase of $100,000 of 5% capitol building bonds.

HOUSTON, TEX.—E. P. Cushing, Ch. Engr., Houston, East & West Texas R. R., informs us that the company will erect three new combination stations this summer.

GALVESTON, TEX.—Bids are asked by the chief quartermaster, Atlanta, Ga., until May 23, for constructing two double sets officers' quarters, one barrack, etc., at Fort Point.

PORTLAND, ORE.—Wolff & Zwicker, of Portland, have been awarded the contract for the metal work for the Tillamook Light Station, at $1,868. Balfour, Guthrie & Co., received the contract for cement work, at $875.

LOS ANGELES, CAL.—Bids are asked, until May 18, for certain work in connection with the county court house, including the construction of a tunnel and shaft, an elevator tower, etc.; bond required, $10,000. T. E. Newlin, County Clk.

SAN JOSE, CAL.—It is reported that Mrs. J. L. Stanford has contracted with Peacock & Butcher, to erect an addition to the museum at the university; cost, $39,060.

WALKERTON, ONT.—Bids are asked, until May 10, for the erection of a house of refuge for Bruce county. W. S. Gould, County Clk.; H. J. Powell, Arch., Stratford, Ont.

WATER-WORKS.

KINGFIELD, ME.—It is stated that the contract for constructing works for the Kingfield Water Co. has been let to Lucian A. Taylor, Worcester, Mass. The work must be completed by July 15.

HAMPTON, N. H.—Chas. M. Lamprey, Clk. Hampton Water Works Co., writes us that surveys will soon be made for the proposed works, noted in our issue of April 21.

BARRE, VT.—C. S. Currier, Cy. Engr., writes us that purchase of the proposed source of new supply in Martin Brook has not yet been authorized. J. W. McDonald, Chn.

BOSTON, MASS.—Bids are asked until May 12 for laying water mains, as described in our advertising columns. F. P. Stearns, Ch. Engr. Metropolitan Water Bd., 3 Mount Vernon St., Boston.

NORTH AMHERST, MASS.—W. W. Hunt, Supt. Amherst Water Co., Amherst, is reported to have made surveys for a water supply for this city. It is proposed to secure the supply from Atkins' Pond, 3¼ miles distant. F. P. Ainsworth may give information.

NORTH ANDOVER, MASS.—Bids are asked until May 14 for furnishing and laying about 12 miles of water pipe and for building a reservoir of 1,000,000 gallons capacity, as described in our advertising columns. Engr., E. Worthington, Dedham, Mass.; Chn. Comrs., A. A. Currier.

ATTICA, N. Y.—The question of the municipal ownership of the works is being considered, according to reports.

CANANDAIGUA, N. Y.—This place has voted against issuing $12,000 in bonds for improving the works.

CAIRO, N. Y.—The council is reported to have contracted for a water supply. The plant will be completed July 1, according to reports.

CORNING, N. Y.—We are informed that the following bids were received May 2 for furnishing and laying 1,940 ft. of water main. S. T. Hayt, Jr., Cy. Engr.: Herrman & Laurence, Corning, $2,886; Walker & Conners, 126 South Main St., Elmira, $3,297; Gillette & Gillette, Dickman House, Corning, $3,790, and $3,980 for putting pipe through bed of river 600 ft. instead of across bridge.

EAST WORCESTER, N. Y.—Wm. E. Dante, of the East Worcester Water Co., recently incorporated, as noted in our issue of last week, writes us that the company will require, about July 1, 9,500 ft. of 6-in. cast-iron water pipe.

HAVERSTRAW, N. Y.—James Renn, of the committee, writes us that the plans and estimates for the proposed new gravity works will be submitted to the voters soon for their approval. Des. Engr., Alex. Potter, 137 Broadway, New York.

LANSINGBURG, N. Y.—An election will soon be held to vote on the question of issuing $60,000 in bonds for the proposed new reservoir. C. E. Hicks, Cy. Engr., or Chairman Roemer, of the committee, may be addressed.

LITTLE VALLEY, N. Y.—S. L. Sweetland, Secy., writes us that the town does not expect to vote this year on the question of building works and a light plant.

MOUNT KISCO, N. Y.—Bids are asked until May 11 for constructing the proposed gravity works. There will be required six miles of pipe, two reservoirs, valves, etc. The bids for this work, received Feb. 1, were given in our issue of Feb. 10. W. E. Osborne, Clk. Bd. Water Comrs.

NEW YORK, N. Y.—Bids are asked until May 12 for furnishing the water supply department with hydrants, handles, nozzles, stop cocks, boxes, drills, pipe, castings, etc. Wm. Dalton, Comr. Water Supply, 150 Nassau St.

PITTSFORD, N. Y.—We are informed that the following bids were received April 27 for constructing the proposed works, as advertised in Engineering News, the bids for pipe and castings being given under Contract Prices. Engr., Paul Voorhees, 1210 Guaranty Bldg., Buffalo:

Valves and Hydrants.

R. D. Wood & Co., Philadelphia, Pa.	$1,255
*Ludlow Valve Mfg. Co., Troy, N. Y.	1,266
J. Thompson & Co., Philadelphia, Pa.	1,241
J. A. Frost's Sons, Towanda, Pa.	1,163
Chapman Valve Mfg. Co., Indian Orchard, Mass.	1,227
Reading Foundry Co., Reading, Pa.	1,265

Triplex Power Pump.

Stilwell-Bierce & Smith-Vaile Co., Dayton, O.	$860
Rumsey & Co., Ltd., Seneca Falls, N. Y.	505
Gould's Mfg. Co., Seneca Falls, N. Y.	475
*J. L. Alberger & Son, Buffalo, N. Y.[1]	730

[1]Worthington Pump.

Gasoline Engine.

Otto Gas Engine Co., Rochester, N. Y.	$560
Olin Gas Engine Co., Buffalo, N. Y.	555
J. W. Ruger Mfg. Co., Buffalo, N. Y.	550
*J. L. Alberger & Son, Buffalo, N. Y[1]	555

[1]Charter Gas Engine.

	Pipe laying.	Pump pit.	Building.	Reservoir.
J. J. Finnigan, Lyons	$2,591	$650	$800	$2,030
J. W. McConnell, Brooklyn	3,114	400	...	1,985
Agate & Schion, Pittsford	2,741	...	...	...
*Parker & Randall, Gowanda	2,800	435	575	1,270
Edson Bros., Phelps	2,934	658	776	1,955
[1]Chandley Bros	2,962	700	700	2,355
R. B. Lewis & Co., Herkimer	2,668	855	1,000	2,007
Richardson & Reed, Owego	2,816	534	600	2,240
W. B. Wilson, Buffalo	2,958	490	600	1,600
J. J. Siegrist, Utica	2,817	500	500	1,425

[1]Beaver Falls, Pa. *Awarded contract.

PRATTSBURG, N. Y.—Jehial Vaughn, Stamford, N. Y., has been awarded the contract for constructing works, as advertised in Engineering News, at about $15,000. Engr., J. F. Wilmer, 705 Ellicott Square, Buffalo.

ROCHESTER, N. Y.—Bids are asked until May 10 for furnishing about 420 tons of 4 to 20-in. cast-iron water pipe and special castings. About half of this quantity will be 6-in. pipe. Chas. M. Beattie, Clk., Executive Bd.; E. Kuichling, Ch. Engr., Water Dept.

SYRACUSE, N. Y.—Bids are asked until May 13 for furnishing cast-iron water pipe and special castings, as stated in our advertising columns. Bids are also asked until May 7 for furnishing lead pipe and pig-lead, as noted last week. W. R. Hill, Ch. Engr. and Supt. Water Bd.

WAYLAND, N. Y.—J. F. Witmer, Ellicott Square, Buffalo, is reported as making surveys for the proposed works; estimated cost, $50,000. Geo. Nold, Clk.

MONTCLAIR, N. J.—The Montclair Water Co. has served notices on its customers that it will have metered all premises where water is used for lawn sprinkling.

ERIE, PA.—The water commissioners have been on a trip east to various cities inspecting pumps. The department expects to be soon in the market for an additional pump. There is one Holly and one Worthington pump now in use and an old Cornish bull pump in reserve.

PARNASSUS, PA.—Bids are asked until May 19 for constructing works and a sewerage system, as stated in our advertising columns; the works will cost $17,000. E. D. Cree, Borough Clk.

PITTSBURG, PA.—Over $100,000 worth of contracts were divided among five contractors last week by Director E. M. Bigelow for the relaying of water pipe in about 90 different streets. The lowest bidders and the number of contracts they secured were: James H. McQuade, 32 streets; Cronin & O'Herron, 25 streets; Keeling & Ridge, 17 streets; P. Moran, 12 streets; H. C. Howard, 18 streets. The prices for this work were much lower than last year, ranging from 23 to 40 cents a foot.

BALTIMORE, MD.—Bids were asked until May 9 for furnishing valves, etc., as may be needed by the water board during the season. Wm. L. Kenly, Ch. Engr.

LAUREL, MD.—The Laurel Water Co. has been incorporated by Jos. M. Cone, J. Stuart McDonald and W. S. Minch, of Baltimore, Md. Edward Phelps, Mayor, may be addressed.

CHESTERTOWN, MD.—This place has voted to purchase the works of the Chestertown Water Co. James Brice, Water Comr.

WILLIAMSPORT, MD.—M. E. Cullen, Town Treas., writes us that the matter of building works and a light plant has not as yet assumed definite shape. Some action will likely be taken in the near future by the appointment of board of supervisors by the burgess, who will have charge of the construction.

WHEELING, W. VA.—Bids will probably be asked in a few days for furnishing a 12,000,000-gallon pumping engine, to cost about $75,000. A. L. White, Cy. Engr.

ROCK HILL, S. C.—Bids are asked until May 15 for constructing the proposed works. A report states that the council at its last meeting adopted plans and specifications for the works. The plans call for two wells, 8 ins. in diameter, with a capacity of 450,000 gallons a day; a reservoir and a tank, the top of which shall be 125 ft. high. Ten-inch pipe is to be used on Main St., 8 and 6-in. pipe on side streets. There are to be, at first 40 hydrants. Population, 6,000. Engrs., Pownall & Minshall, 150 Nassau St., New York; Cy. Treas., J. D. Scruggs.

ATLANTA, GA.—We are informed that the city proposes to extend the water mains to Forrest Park, two miles distant, for the use of the U. S. Army.——A local paper states that the election called for June 6, to vote on the question of issuing bonds for extending the mains, has been postponed until Oct. 5. W. D. Greene, Cy. Clk.

FITZGERALD, GA.—Bids are asked until about June 18 for constructing the proposed works and light plant. The city sold $33,000 of bonds in April for these improvements. Aldermen A. W. Reynolds, Chn. Com., and Martin Scott may be addressed.

COLUMBUS, GA.—The Columbus Water Works Co. has submitted a proposition to the council to lay about 25,000 ft. of pipe and set up a number of new hydrants. L. F. Garrard, Jr., Secy. and Treas.

GADSDEN, ALA.—The Mayor writes us that the council will consider the question of building new works at the first meeting in May, the works of the Gadsden Water Works Co. not being sufficient for the demands made upon it. The company is now in the hands of a receiver and in trouble with the city. Population, 6,000.

M'COMB, MISS.—C. C. Jarvis, Mayor, writes us that the election to vote on the question of issuing $60,000 in bonds for works and a light plant has again been postponed until May 9. Engrs., Sanders & Porter, Louisville, Ky., and Brookhaven, Miss.

SUMMIT, MISS.—We are informed that bids will be asked in a few days for constructing the proposed works. Engrs., Alber & Byrne, 1,821½ Second Ave., Birmingham, Ala.; Mayor, J. B. Holden; Secy., P. A. Matthews.

ROGERSVILLE, TENN.—An election will be held May 18 to vote again on the question of building works at a cost of $18,000. H. J. Nelson, Mayor.

COLLEGE HILL, O.—We are informed that this place will vote, June 4, on the question of issuing $45,000 in bonds for works. Plans and specifications were prepared by E. F. Layman, 32 East 3d St., Cincinnati.

BRISTOL, IND.—Wm. M. Sullivan, Town Clk., writes us that the question of building works and a light plant, reported in our issue of last week, has been given up for the present.

LA PORTE, IND.—W. H. Rosencrans has submitted plans and specifications for a new water supply for the Little Kankakee River, to cost about $35,000. O. G. Fox, S. W. Lomer and Chas. G. Replogle, Water Comrs.

PIERCETON, IND.—The Pierceton Water Works Co. has been incorporated with a capital stock of $10,000. Population, 1,100.

IONIA, MICH.—Plans, etc., have been completed by D. C. Crawford, C. E., and O. Waterbury, Arch., for a 340,000-gallon reservoir to cost $3,600, and new pumps to cost $3,000.

MANCHESTER, MICH.—A. J. Waters, Pres., writes us that this place is not contemplating putting in works, as reported in our issue of last week.

NEGAUNEE, MICH.—It is stated that the works will be overhauled and a number of improvements made to it. Supt., J. A. Wasmuth.

ZEELAND, MICH.—The people are reported to have voted upon the question of building works.

CRESTON, IA.—Freeman Turner, Des Moines, Ia., is reported as preparing plans for a 150,000-gallon steel standpipe, to cost about $5,000.

PRESTON, IA.—The Iowa Engineering Co., Iowa City and Clinton, Ia., is reported as preparing plans for the proposed works for the Preston Light & Water Co., which was granted a 25-year franchise in December. Population, 800. Secy., W. B. Davy.

MORRIS, MINN.—The Iowa Engineering Co., Iowa City, Ia., is preparing plans for the proposed works for this place, to cost about $25,000. The question of building the works will probably soon be voted on. Anton Watske may be addressed.

ST. PAUL, MINN.—Bids are asked until May 9 for furnishing about 10,000 ft. of 6 to 36-in. cast-iron water pipe, 8 tons of soft pig-lead, and for laying 4 to 30-in. water mains. John Caulfield, Secy. Water Comrs.——Secretary Caulfield has prepared specifications for the supplies for the extension of water mains this year. The extensions are estimated to cost $25,000. Improvements are also contemplated at the Pleasant Lake pumping station. The lake covers 700 acres. The work to be done at the lake is estimated to cost $5,000. Bids for the contemplated work will be received at the next meeting of the board.

TRIPP, S. DAK.—It is stated that Jackson & Moss, Des Moines, Ia., have been awarded the contract for constructing the works, at $4,417. John McLain, Town Clk.

INDEPENDENCE, MO.—S. H. Woodson, Mayor, writes us that this city will probably vote within 60 days on the question of extending the water mains and building a sewerage system. H. H. Pendleton, Cy. Engr.

ST. LOUIS, MO.—We are informed that Capt. H. E. Waterman, U. S. Engr., received the following bids March 26 for furnishing two duplex steam pumps, as advertised in Engineering News:

Single—Deane Steam Pump Co.*	$3,990
Compound—Stilwell-Bierce & Smith-Vaile Co., Dayton†	2,780
Laidlaw-Dunn-Gordon Co., Cincinnati	3,600
L. M. Rumsey Mfg. Co. (Blake, 15-in. stroke)	4,444
Deane Steam Pump Co., Holyoke, Mass.	4,490
John H. McGowan Co., Cincinnati, O.	4,500
Manhattan Supply Co., New York (Worthington)	4,609
Henry R. Worthington, New York	4,619
L. M. Rumsey Mfg. Co., St. Louis§	4,672
T. C. Gill & Co., Philadelphia, Pa. (Worthington)	4,920
M. T. Davidson, Brooklyn, N. Y.	7,200
Triple Expansion—Laidlaw-Dunn-Gordon Co.	5,200
L. M. Rumsey Mfg. Co., St. Louis (Blake) (accepted)	5,468
Manhattan Supply Co., New York (Worthington)	7,540
Henry R. Worthington, New York	7,550
T. C. Gill & Co., Philadelphia (Worthington)	7,720

*Bids were not invited on single pumps. †Engine too small and no guaranty to bid. §Blake, 18-in. stroke.

Note.—The triple expansion type was selected on account of comparative slight difference in price and greater efficiency, and the bid of L. M. Rumsey Mfg. Co. for two Blake pumps at $5,468 was recommended on account of the light weight and convenience of placing in space available.

PARIS, TEX.—Walter C. Dean, Cy. Engr., writes us that the city is asking for bids for constructing the earth dam for the artificial lake fo· the improvement to the water supply. It is probable that bids will soon be asked for furnishing pipe, pumps and stand-pipe.

SEATTLE, WASH.—The question of building a steel stand-pipe, 25 x 70 ft., in City Park, at a cost of $11,725, is being considered by the council.

ANTELOPE, ORE.—J. B. Goit, County Surv., The Dalles, Ore., writes us that this city is preparing to put in works. The water will be furnished by springs above the town, which the city has already purchased.

NAPA, CAL.—The board of trade has asked the council to engage an engineer to make surveys for a supply from Recot Canyon. This is the first move towards securing municipal works, according to reports.

REDWOOD CITY, CAL.—Bids are asked until May 9 for sinking a 16-in. well for an increased water supply. D. R. Stafford, Clk.

SAN DIEGO, CAL.—The San Diego Flume & Water Co., it is reported, will increase its water supply by sinking additional wells.

CORONA, CAL.—H. Clay Kellogg, Santa Ana, Cal., is reported as preparing plans for a water supply to be furnished by the Temescall Water Co. The pipe line will be 13 miles long, of which only three miles will be built this year; estimated cost, $65,000.

VENTURA, CAL.—It is stated that the trustees have decided to give up the idea, at present, of building municipal works and light plant.

PRESCOTT, ARIZ.—This city has voted to issue bonds for the proposed works, to cost about $120,000. J. J. Fisher, Cy. Engr.

BIRMINGHAM, ENGLAND.—Bids are asked, until May 16, for constructing about 14½ miles of the aqueduct from Deconton to Cleobury Mortimer. Engr., James Mansergh, 5 Victoria St., Westminster, London; Town Clk., Edward O. Smith.

SEWERAGE.

HYDE PARK, MASS.—This city has asked for authority to issue $100,000 in bonds for sewers.

WORCESTER, MASS.—The committee has voted to recommend that intercepting sewers be placed in Milbury St., from Cambridge St. to Vernon Square, and in Pleasant, Elm and Mechanic streets. The cost is expected to be about $50,000.

SYRACUSE, N. Y.—The West End Business Men's Association is urging the council to build a trunk sewer in the eastern portion of the city. A. R. Gillis, Chn. Com.

FLEMINGTON, N. J.—The proposed system with the disposal plant will probably be built this season. A. B. Kline, Cy. Clk.

WOODBURY, N. J.—D. T. Mather, Cy. Clk., writes us that on June 7 an election will be held to vote on the question of accepting or rejecting "an act to authorize cities of the third class to construct sewers, drains or both and to provide for the payments of the cost thereof."

PARNASSUS, PA.—Bids are asked until May 19 for constructing a system and water-works, as stated in our advertising columns. E. D. Cree, Borough Clk.

NORFOLK, VA.—An election was held May 4 to vote on the question of issuing $150,000 in bonds for sewers in Brambleton ward. H. S. Herman, Cy. Treas.

CLEVELAND, O.—Bids are asked until May 26 for constructing sewers in four streets. Geo. R. Warden, Dir.

TOLEDO, O.—Bids are asked until May 16 for constructing a 10-in. pipe and 24-in. brick sewer in two streets. L. P. Harris, Cy. Clk.

EVANSVILLE, IND.—It is proposed to build sewers in a number of streets.

INDIANAPOLIS, IND.—Bids are asked until May 9 for constructing sewers in several streets. M. A. Downing, Chn. Bd. Pub. Wks.

CHICAGO, ILL.—Commissioner McGann has awarded the contracts for building the 39th St. and Lawrence Ave. conduits of the intercepting sewer system to the Chicago Star Construction Co., at $786,591, and to Farley & Green, at $479,663. The work is to be completed within a year. Both contractors must furnish bonds for 50% of the amount of the contract price.

INDEPENDENCE, MO.—S. H. Woodson, Mayor, writes us that a vote on the question of building a system will probably be taken within the next 60 days.

POPLAR BLUFF, MO.—W. H. Hopolite, Cy. Engr., writes us that plans and specifications for a system have not yet been prepared. The council has ordered a survey to be made at once. There will be required 12 to 4-in. pipe sewers.

ST. JOSEPH, MO.—Alderman F. E. Ernst writes us that no action has yet been taken on the proposed Blacksnake sewer, reported in our issue of last week.

ST. LOUIS, MO.—We are informed that the following bids were received April 29 for constructing 18, 15 and 12-in. pipe sewers in Quincy St., sewer district No. 5; all local bidders: John F. McMahon & Jos. J. Cooney, $2,727; Hill-O'Meara Construction Co., $2,935; Skrainka Construction Co., $2,921; H. Ruecking & Co. (accepted), $2,686; St Louis Quarry & Construction Co., $3,162; H. Wellman & Co., $2,919; Harry F. Heman, $2,876; G. Eyerman, Jr., $2,961; Robt. J. Boyd Paving & Construction Co., $3,173; Robt. Wyckoff, $3,001.

SPOKANE, WASH.—Councilman Dunning has introduced a resolution to construct a sewer in the Fifth ward.

PRESCOTT, ARIZ.—A special election held April 20 on the question of issuing $150,000 bonds for water-works and $25,966 for sewerage resulted in favor of the proposition. F. M. Murphy, W. N. Kelly and E. W. Wells are on the committee.

GARBAGE DISPOSAL—STREET CLEANING

READING, PA.—The following bids were received May 2 for the collection and destruction of garbage; S. S. Hoff, Cy. Engr.: Joseph P. O'Reilly, $11,668; Charles H. Fisher, $11,495; A. Lincoln Frame, $10,992; James A. O'Rourke, $7,900; Charles C. Fisher, $11,900; David Peoples, Philadelphia, $9,200; John O'Connor, $11,988.

COLUMBUS, O.—Bids will soon be asked by Clerk Fanning of the council for cleaning certain streets of the city by machinery.

DETROIT, MICH.—F. A. Blades, Controller, writes us that the following bids were received April 30 for a 3-year contract for collecting and disposing of the garbage from July 1: Detroit Sanitary Works, Detroit, first year, $55,000; second year, $60,000; third year, $65,000, and 50 cts. a ton rebate for all garbage collected in excess of 15,000 tons. The amount collected last year amounted to about 16,250 tons. Western Reduction Co., Chicago, Ill., $62,350 a year for three years.

STREETS AND ROADS.

ANSONIA, CONN.—Bids are asked by the City Clerk until May 11 for paving the Maple St. bridge over the railway and Naugatuck River; surety, $300.

SIMSBURY, CONN.—Bids are asked until May 10 for grading sections of roads. W. H. Whitehead, First Selectman.

BUFFALO, N. Y.—Bids are asked until May 12 for macadamizing Mayer Ave. from Ontario St. to Rano St. R. G. Parsons, Secy. Bd. Pub. Wks.

ALBANY, N. Y.—Bids are asked for the following estimated work: Van Woert St., 2,930 sq. yds. of brick paving, 2,300 lin. ft. of 6-in. granite curb, and four receiving basins; Lexington Ave., 6,600 sq. yds. of brick paving, 3,400 lin. ft. of curb, 4,000 sq. ft. of flag and 20,000 sq. ft. of brick sidewalks. Thomas J. Lanahan, Clk. Bd. Contract and Apportionment.

NEW ROCHELLE, N. Y.—C. W. S. Wilson, Village Engr., writes us that the Westchester Electric Ry. Co., which is about to construct about eight miles of electric railway from Mount Vernon to and through New Rochelle, will pave the road between the rails and for 2 ft. outside with brick on a 6-in. concrete foundation. For further information see Street and Electric Railway.

CORTLAND, N. Y.—We are informed that it is not certain whether the proposed paving in Main St. for one mile will be constructed this year or next. A petition is being circulated among the property owners. E. E. Mellon is interested. D. F. Wallace, Chn. Com.

HOOSIC FALLS, N. Y.—The committee is contemplating the purchase of a stone crusher.

ITHACA, N. Y.—This city states in our advertising columns that it will spend $30,000 for brick paving this year. A. W. Force, Secy.

SEA CLIFF (L. I.), N. Y.—An election was held May 4 to vote upon the question of raising $8,000 for street improvements and issuing bonds for that purpose.

TROY, N. Y.—Bids are asked until May 10 for grading in Pawling Ave. E. Ogden Ross, Secy.

UTICA, N. Y.—The Warren-Scharf Asphalt Paving Co. submitted the lowest bids April 29 for paving in West St. at $7,932, and in Albany St. at $15,837.

ELIZABETH, N. J.—Bids are asked until May 16 for about 1,370 ft. of 4-ft. flagging, 1,200 ft. of 4 × 16-in. curb and 600 ft. of curb to reset. N. K. Thompson, St. Comr.

MONTCLAIR, N. J.—Bids are asked until May 9 for laying about 2,800 lin. ft. of stone sidewalk on Upper Mountain Ave.; estimated cost, $1,771; also for constructing stone roads 16 ft. wide and for furnishing cracked stone for gutters and crosswalks. James Owen, Town Surv.; Harry Trippett, Town Clk.

NEWARK, N. J.—Bids are asked until May 5 for about 14,200 sq. yds. of sheet asphalt paving and curbing in portions of six streets. J. C. Mundy, Supt.——Bids are asked until May 9 for furnishing 1¼ and 2½-in. broken stone, as may be required during the year. Joseph B. Brady, Chn. Bd. Freeholders.

EDGWOOD, PA.—Bids were received May 2 for about 5,800 cu. yds. of grading, 5,200 lin. ft. of curbing and 6,360 sq. yds. of paving. R. L. Smith, Borough Engr.

FRANKLIN, PA.—Thos. L. Kennerdell, Cy. Engr., informs us that the question of constructing about 6,000 sq. yds. of brick paving is being contemplated. Plans are not yet ready.

FREEPORT, PA.—Bids are asked until May 16 for brick paving, as described in our advertising columns. Engr., Robt. H. Wilson, Saltsburg, Pa.; Clk., Geo. B. Findley.

PHILADELPHIA, PA.—Bids are asked until May 12 for constructing Lincoln Ave. drive in Fairmount Park. Jesse T. Vogdes, Ch. Engr. and Supt. Park Comrs.

PITTSBURG, PA.—Bids are asked until May 26 for improving the Butler Pike extension, the Ridge Road and the Temperanceville & Noblestown Turnpike. F. W. Patterson, County Engr.; W. E. Thompson, County Controller.

READING, PA.—An ordinance has been passed by the council for paving portions of 12 streets with sheet asphalt. Jacob Weidel, Mayor; H. H. Hammer, Cy. Clk.

WASHINGTON, D. C.—The commissioners have ordered that Sherman Ave. from Grant to Irving Sts. be macadamized.

BALTIMORE, MD.—Bids are asked until May 12 for furnishing paving stones, curb, gutter, flag, cement, etc. L. F. Lewis, Cy. Comr.

WHEELING, W. VA.—Bids are asked until May 7 for paving certain streets with brick; bond, $3,000. Wm. H. Hornish, Clk.

LOUISVILLE, KY.—Bids are asked by the board of public works until May 10 for 3,068 lin. ft. of granite block paving in Hamilton St., paving in 15 alleys with brick, and constructing brick sidewalks in portions of 21 streets; estimated cost, about $65,000.

CINCINNATI, O.—Bids are asked until May 16 for brick paving, grading, curb, etc., in Friendship St., from Pike St. to Butler St. A. P. Butterfield, Clk. Bd. Cy. Affairs.

CLEVELAND, O.—Bids are asked until May 24 for brick paving, grading, etc., in Churchill St., from Doan to Parkwood St., and paving Prospect St. with Medina dressed block, between Erie and Brownell Sts. Geo. R. Warden, Dir. Pub. Wks.

EAST LIVERPOOL, O.—Bids are asked until May 26 for paving, etc., in three streets, according to reports. J. N. Hanley, Cy. Clk.

MIDDLETOWN, O.—J. V. Bronnell, Clk., informs us that the council is not contemplating any paving at present.

SANDUSKY, O.—The following bids were the lowest received April 27 for paving in Wayne St.: F. E. Cole, Toledo, Market to Scott St., sheet asphalt, $29,069; Michael J. Callan, New Castle, Market to Scott St., block asphalt, $32,045; C. F. Hartman, Water to Market St., brick, Bolen's granite Portland cement filler, $2,753.

TOLEDO, O.—Bids are asked until May 30 for stone Erie St., Woodville St. and Second St. L. P. Harris, Cy. Clk. Woodville St. L. P. Harris, Cy. Clk.

TOLEDO, O.—Bids are asked until June 6 for paving in Erie St., Woodville St. and Second St. Levi P. Harris, Cy. Clk.

BRAZIL, IND.—The following bids were received April 28 for constructing seven miles of macadam road. Thomas Phillips, County Audr.:

Jean & Jean, Worthington, Ind.	$19,000
Miller & Williams, Marion, Ind.	19,325
Notter & Huxton	19,108
Funk & Muehler, Bowling Green, Ind.	19,047

COVINGTON, IND.—Foster & Co. have been awarded a contract, at $16,349, for paving Perry St. with brick from Jackson St. to Wabash depot.

ROCKVILLE, IND.—Bids are asked until May 16 for the construction of four highways, a total length of about 15 miles, in Green township. E. H. Owen, County Audr.

SALEM, IND.—Bids are asked until May 5 for the purchase of $34,190 road bonds. Thomas B. Cauble, County Treas.

BATTLE CREEK, MICH.—Bids are asked until June 1 for furnishing four car loads of bluestone crossing flag and ten car loads of bluestone curb. W. H. Mechem, Cy. Engr.; Abraham T. Metcalf, Mayor; Albert S. Simpson, Recorder.

MORGAN PARK, ILL.—Bids are asked until May 10 for brick paving and concrete curb and gutter in Arlington and Fairfax Aves. Edgar Ayres, Village Clk.; M. H. King, Pres. Bd. Local Improvements.

CHICAGO, ILL.—Bids are asked until May 11 for cedar block paving in portions of 12 streets, macadamizing in three streets, brick paving in Lake St. and grading, etc., in four streets. L. E. McGann, Pres. Bd. Local Improvements.

MINNEAPOLIS, MINN.—Hayes & McDougall have been awarded a contract for grading Lake St. boulevard at a cost of about $5,500. A contract has been awarded to Fielding & Shipley, at $2,680, for sandstone block paving in Summit Ave.

ST. PAUL, MINN.—The following are the lowest bids received April 28 for asphalt paving in five streets: Hennessy & Cox, Sherburne Ave., $3,482; Market St., $8,552; Ashland Ave., $19,809; Warren-Scharf Asphalt Paving Co., Laurel Ave., $27,339; Sixth St., $6,513.

BUCYRUS, O.—Fred. Messner was awarded the contract by the city council, April 27, for the construction of new radiator shops, with slate roofs, at $6,899.

ST. JOSEPH, MO.—It is reported that T. J. Gordon has purchased the old glucose factory near South Park, and that he will soon erect upon the site a new grain elevator with a capacity of 100,000 bushels; estimated cost, $25,000.

DESERET, UTAH.—The Deseret Irrigation Co. has decided to build a new roller mill at this place, according to reports.

DESERONTO, ONT.—The plant of the Deseronto Terra-Cotta Works, owned by the Rathburn Co., was destroyed by fire, April 30, causing a loss of about $50,000; partially insured.

CONTRACT PRICES.

ASPHALT BLOCK PAVING.—Fort Wayne, Ind.—C. E. Moellering & Co., Fort Wayne, has been awarded the contract for asphalt block paving in Columbia St., at $1.84. The blocks will be 4×4×12 ins. on 5 ins. of broken stone and 2 ins. of sand. F. M. Randall, Cy. Engr.

STORM SEWERS.—Somerville, Mass.—E. W. Bailey, Cy. Engr., informs us that the following bids were received April 20 for constructing storm sewers in the eastern district at Broadway and Sargent Ave; the contract was awarded Richard Falvey:

Bids Received at Somerville, Mass., April 20, for Constructing Storm Sewers in Broadway and Sargent St.

Bidder.	Excavation, Earth, 730* lin.ft.	Excavation, Earth, 920† lin.ft.	Excavation, Rock, 1,000 cu.yds.	Underdrains, 1,650 lin.ft.	Cement concrete, Prtlnd, 600 cu.yds.	Cement concrete, Rsndle, 100 cu.yds.	Brick masonry, Prtlnd, 190 cu.yds.	Brick masonry, Rsndle, 380 cu.yds.	Total.
Richard Falvey, Somerville, Mass.	$2.60	$2.40	$2.30	$0.12	$5.20	$4.50	$12.50	$10.25	$16,444
H. A. Hanscom & Co., West Medford, Mass.	2.60	2.06	2.75	.10	5.50	4.50	12.50	11.00	17,013
C. E. Trumbull & Co., Boston	3.85	3.55	3.50	.10	4.34	3.65	9.21	8.09	17,535
T. H. Bryne, Hyde Park, Mass.	2.57	2.25	2.50	.25	6.50	5.00	14.00	12.00	18,479
Chas. A. Mongan, Somerville, Mass.	3.50	2.50	3.00	.10	6.00	4.50	13.00	11.75	19,005
J. P. O'Connell, Dorchester, Mass.	2.75	2.35	3.00	.15	6.00	5.00	14.50	12.50	19,022
Chas. G. Craib, Winthrop, Mass.	2.75	2.50	3.75	.15	5.75	5.00	13.50	12.00	19,380
Maurice Buttimer, Somerville, Mass.	2.50	2.40	5.00	.25	7.00	5.50	14.50	12.00	21,510
E. W. Everson, & Co., Boston	4.50	4.00	4.00	.25	6.00	5.00	15.00	12.00	22,888
Geo. W. Judd, Boston, Mass.	5.40	4.40	4.00	.20	5.60	5.00	15.00	13.50	24,160
J. J. Newman, Providence, R. I.	5.60	5.25	4.50	.25	6.45	5.00	14.25	12.85	25,791
J. H. McKnight, Hyde Park, Mass.	3.70	3.50	6.50	.20	7.00	6.00	16.50	14.00	26,006

*For 64-in. sewer. †For 56-in. sewer.

MARSHALLTOWN, IA.—Bids are asked until May 23 for brick paving. F. G. Price, Mayor, informs us that about three miles of brick paving will be laid in streets 30 ft. wide. Wm. Bremner, Cy. Engr.; J. G. Trotter, Cy. Clk.

KANSAS CITY, MO.—The board of public works has awarded the Barber Asphalt Paving Co., New York, a contract to construct a pavement on Southwest Boulevard from Main St. to the bridge, estimated to cost about $45,000. An ordinance has been approved for paving Holmes St. from 15th to 31st St., to cost from $40,000 to $50,000.

BERKELEY, CAL.—Bids are asked by the city trustees until May 8 for constructing about 33,000 sq. ft. of macadam road and 8,000 sq. ft. of concrete gutter in Russell St.

SAN FRANCISCO, CAL.—New bids will be asked by the street committee for paving Webster St. with wooden blocks on a concrete base from First St. to Fourth St. The lowest bid was submitted by the Piedmont Paving Co. at $15,414.

TORONTO, ONT.—Bids are asked until May 9 for constructing brick and concrete sidewalks in six streets. John Shaw, Mayor and Chn. Bd. Control.

MANUFACTURING PLANTS.

MIDDLEBURY, VT.—The Brandon Italian Marble Co. is making arrangements to build a new shop in this town, according to reports. President Upham may be addressed.

TONAWANDA, N. Y.—It is reported that the Barnes Mfg. Co., of Syracuse, N. Y., contemplates the erection of a new factory building at this place.

WEST TROY, N. Y.—We are informed that estimates are being received for the erection of a 5-story collar factory, with engine room annex and water tower, at Watervliet, for William Barker; estimated cost, $30,000. Arch., E. W. Loth, 253 Broadway, Troy, N. Y.

REYNOLDSVILLE, PA.—William A. Stamey, of this town, has been appointed by the state to investigate the growth and culture of sugar beets, preparatory to the erection of a sugar refinery in the Allegheny valley.

WATER PIPE AND SPECIALS.—Buffalo, N. Y.—We are informed that the following bids were received April 27 for furnishing water pipe and special castings, for the proposed water-works, as advertised in Engineering News; contract was awarded the Lake Shore Foundry Co.; Engr., Paul Voorhees, Guaranty Bldg., Buffalo,; Secy. Water Comrs., Samuel Rand:

	Pipe.	Specials.	Total.
Chas. Millar & Son, Utica, N. Y.	$17.00	1¾ cts.	$4,952
Reading (Pa.) Foundry Co.	19.40*	2 "	5,442
Lake Shore Fdry Co., Cleveland	16.50	2¼ "	4,862
Buffalo (N. Y.) Cast-Iron Pipe Co.	17.50	2 "	5,118
Jackson & Woodin Mfg. Co. Berwick	17.73	1¾ "	5,157
Nat'l Fdy & Pipe Wks, Scottdale, Pa	17.80	2 "	5,202
Southern Pipe Co., Anniston, Ala.	17.52	2 "	5,123
Donaldson Iron Co., Emaus, Pa.	17.92	1¾ "	5,211
R. D. Wood & Co., Philadelphia, Pa.	17.65	2 "	5,160

*4-in., $19.40; 6 and 8-in., $18.40.

ASPHALT PAVING.—Minneapolis, Minn.—The following bids were received April 30 for 21,130 sq. yds. of asphalt paving; E. R. Dutton, St. Engr.:

Items.		Warren-Scharf Asp. Pav. Co., New York.	Ayers Asphalt Pav. Co., Zanesville, Ohio.	Assyrian Asphalt Co., Chicago, Ill.
10-year guarantee; 10% retention, 15% guarantee, a sq. yd		$2.23	$2.15	$2.49
Maintainance a sq. yd. a year after 10 years.		.15	.10	.12
Gutter, brick, a sq. yd.	2 ft.	2.14	2.10	1.98
	3 "	2.14	2.10	1.98
Gutter, sandstone, a sq. yd	2 "	3.38	2.95	3.07
	3 "	3.38	2.95	3.07
Granite toothing, a sq. yd.		3.45	3.25	3.03

STORM SEWER.—Somerville, Mass.—We are informed that the following bids were received April 20 for constructing storm sewers in the eastern district; Broadway and Cross St.; E. W. Bailey, Cy. Engr.:

Bids Received at Somerville, Mass., April 20, for Constructing Storm Sewers in Broadway and Cross St.

Bidder.	Excavation, Earth,* 1,900 lin. ft.	Excavation, Rock, 1,370 cu. yds.	Underdrains, 4—10-in., 1,900 lin. ft.	Cement concrete, Portl'nd, 500 cu.yds.	Cement concrete, Rosendl, 100 cu.yds.	Brick masonry, Portland, 170 cu. yds.	Brick masonry, Ros'dale, 330 cu. yds.	Total.
T. H. Bryne, Hyde Park (accepted)	$1.80	$2.50	$0.25	$6.50	$5.00	$14.00	$12.00	$17,410
H. A. Hanscom & Co., West Medford	2.07	3.25	.13	5.75	4.75	13.00	11.50	17,988
C. E. Trumbull & Co., Boston	3.40	3.50	.10	4.34	3.65	9.21	8.09	18,215
J. P. O'Connell, Dorchester	2.20	3.50	.15	6.00	5.00	14.50	12.50	18,665
John J. Falvey, Somerville	3.00	2.75	.15	5.50	4.50	12.50	11.00	18,708
Chas. G. Craib, Winthrop	2.25	3.50	.15	5.75	5.00	13.50	12.00	18,985
Geo. W. Judd, Boston.	3.75	4.00	.20	5.60	5.00	15.00	13.50	23,290
E. W. Everson & Co., Boston	4.00	4.00	.25	6.00	5.00	15.00	12.00	23,565
J. J. Newman, Providence, R. I.	3.75	4.50	.25	6.45	5.00	14.25	12.85	24,153
J. H. McKnight, Hyde Park	3.00	6.25	.20	7.00	6.00	16.50	14.00	26,168
Charles A. Mongan, Somerville	3.75	6.50	.15	6.00	4.50	15.00	12.00	26,275

*For 42-in. sewer.

ARLINGTON, N. J.—The new roller mill of the Arlington Mfg. Co. was damaged by fire, May 1, causing a reported loss of $40,000; fully insured. Supt., H. C. Pierce.

NASHVILLE, TENN.—Press reports state that W. B. McBride, representing a Chicago brewing company, has obtained an option on a large plot of ground in this city, on which his company proposes to erect one of the largest breweries in the country. The scheme is said to embrace, in addition to the brewery, the erection of an 8-story steel-constructed hotel.

NEW ATHENS, ILL.—The New Athens brewery plant was destroyed by fire, April 29, causing a reported loss of $100,000; fully insured.

LOUISVILLE, KY.—The Tobacco Warehousing & Trading Co., 8th and Magnolia Aves., Louisville, informs us that the only contract which has not yet been awarded for the completion of its new plant is a contract for one 75-HP. self-lubricating engine, compound vertical, with inverted cylinders, automatic cut-off and a steam pressure of 80 lbs. Full particulars regarding the cost of setting up such an engine are desired.

CLEANING HARBOR.—Baltimore, Md.—The harbor board opened bids April 23 for the dredging of the harbor. The bids were divided into two classes, the first for taking the material out of the harbor and placing it behind the sea wall, and the other for dredging and dumping the dirt in deep water. The bids were as follows: Sanford & Brooks, 18 cts. a cu. yd. for taking 200,000 yds. of material out of the channels and placing it behind the sea walls, and 11.35 cts. for dredging it and dumping it in the water. The firm bid at the same figures for taking 30,000 cu. yds. from the back basin and docks and 20,000 yds. from the Spring Gardens. The Virginia Dredging Co., of Richmond, Va., 8.9 cts. a cu. yd. on 200,000 yds. from the channels, 30,000 cu. yds. from the back basin and docks at 9.9 cts., and 20,000 from Spring Gardens at 8.9 cts. a cu. yd. The bid was only under the second class. The Baltimore Dredging Co., second class, 200,000 cu. yds. 7 cts. a cu. yd.; 30,000 cu. yds., 8 cts. a cu. yd.; and 20,000 cu. yds. at 6.9 cts. a cu. yd.; awarded contract, at $17,780. The Fred. E. Jones Co., 200,000 cu. yds., 10.9 cts.; 30,000 at 13.5 cts.; and 20,000 cu. yds. at 19.9 cts. These bids were also made in the second class.

SEWER DEPARTMENT SUPPLIES.—Worcester, Mass.—We are informed that the following contracts were let April 5 for furnishing certain supplies for the sewer department: Benjamin F. Marsh, Worcester—Vitrified pipe, 82% off standard list, $1 per ton for delivery on work; Sessions Foundry Co., Bristol, Conn.—Castings, manhole covers, $5.75 each on work; catchbasins 1.15 cts. a lb. on work; Frank E. Powers, Worcester—Portland cement, $2.25 a bbl. on work, $2.05 a bbl. in bags on work; Rosendale cement, $1.01 a bbl. in bags on work; lime, $4.89 a ton in car lots; brick, $7.40 a M. on cars; Amos M. Eaton Estate, Worcester—Sand, 75 cts. a yard on work; and Webb Granite & Construction Co., Worcester—Catchbasin stone, $12.00 a set.

GRADING CYCLE PATHS.—Minneapolis, Minn.—The following bids were received by the county commissioners last week for grading the Lake St. and Minnetonka Boulevard cycle paths: George Turnham, 14 cts. a cu. yd.; J. W. Kerr & Co., 15 cts.; E. F. Comstock & Co., 19¾ cts.; Hayes & McDougal, 12¾ cts., awarded contract, total, $5,500; Norton & Gleason, 14 cts.; Winston Bros., 18 cts.

BRICK PAVING.—Waukesha, Wis.—We are informed that the following bids were received April 21 for brick paving, as advertised in Engineering News; contract awarded Giaconia Maffioli: William Powrie, Cy. Engr.:

Bids Received at Waukesha, Wis., April 21, for Brick Paving.

Quantities.		John O. Jones, Racine, Wis.	E. W. Cahill, Waukesha, Wis.	August Dienan, Waukesha, Wis.	R. J. Hickey, Milwaukee, Wis.	Thatcher & Burke, Chicago, Ill.	A. Kellner, Milwaukee, Wis.	Rickert Const'n Co., Racine, Wis.	Giaconia Maffioli, Rockford, Ill.
Excavation	6,577 cu. yds.	$0.27	$0.25	$0.23	$0.25	$0.16	$0.38	$0.24	$0.20
Galesburg paving brick	15,430 sq. yds.	.....	1.32	1.33	1.43	1.32	1.28	1.39	1.23
Filling	....	.....	.30	....	.30	.01	....	.50	.75
Purrington paving brick	....	1.34	....	....	1.43	1.32	1.28	1.39	....
New curbing	6,185 lin. ft.	.45	.45	.43	.43	.43	.43	.45	.45
Protection curb	1,000 " "	.24	.25	.21	.22	.17	.20	.28	.20
Curb reset	200 " "	.10	.09	.10	.08	.07	.08	.10	.05
Catchbasin covers	3 each	6.00	9.00	9.00	6.50	5.00	10.00	9.00	10.00
" complete	....	....	20.00	20.00	....	15.00	....	25.00	10.00
" rebuilt	3 each	12.00	10.00	10.00	10.00	5.00	9.00	25.00	10.00
Lamphole covers	2 "	3.00	2.75	2.00	2.00	2.50	2.75	4.00	2.25
Cast-iron gutters	170 lin. ft.	.50	2.00	1.95	2.00	1.82	2.00	2.50	2.25
" " bridges.	300 " "	.50	.40	.41	.45	.32	.55	.50	.45
Total		....	....	$25,539	....	$24,700	$25,693	....	$23,870

SEWERS.—Dayton, O.—We are informed that the following bids were received April 28 for constructing sewers in Broadway and 1st St.; Frank M. Turner, Cy. Engr.:

Bids Received at Dayton, O., April 28, for Constructing Sewers.

Bidder.	Sewer: Brick: 48-in., 167 ft.	36-in., 530 ft.	30-in., 853 ft.	24-in. pipe,[1] 347 ft.	20-in. pipe, 653 ft.	18-in. pipe, 610 ft.	15-in. pipe, 420 ft.	12-in. pipe, 1,050 ft.	Manholes, 12 each.	Catch-basins, 35 each, No. 1.	No. 2.	Stone masy., 40 prchs.	Total bid, using basin No. 1.	No. 2.
John Munger & Co.	$2.75	$1.85	$1.40	$0.95	$0.54	$0.44	$0.34	$0.26	$17.50	$7.00	$9.00	$5.00	$4,655	$4,725
David Beard	2.75	1.70	1.56	.80	.56¼	.45	.33	.27	16.75	5.35	7.85	3.75	4,465	4,553
Adams Bros.	3.10	2.44	2.05	.95	.70	.52	.45	.35	18.00	8.00	10.00	4.00	5,876	5,946
E. J. Ryan.	2.26	1.96	1.56	.94	.66	.54	.47	.31	20.00	7.50	9.50	3.50	4,990	5,069

[1] Double strength.

CEMENT WALKS.—Indianapolis, Ind.—The following bids were received by M. A. Downing, Chn. Bd. Pub. Wks., April 25, for laying cement sidewalks; all local bidders: Robert L. King & Co., 59¼ cts. a lin. ft.; Henry Maag, 60 cts.; Indianapolis Improvement Co., 61¾ cts.; Rogers & Dunlop, 63 cts.; J. C. Vieney, 64¾ cts.; and Capitol Paving & Construction Co., 69 cts.

INTAKE PIER, TUNNEL AND PUMP PIT.—Cincinnati, O.—We are informed that the following bids, submitted by F. H. Kirchner & Co., Cincinnati, April 28, were the lowest for constructing the intake pier, tunnel and pump pit; as advertised in Engineering News; Chas. G. Roth, Clk. Water-Comrs.:

Caisson for intake pier	1	$28,000.00
For pump pit	1	178,000.00
Masonry in intake pier	3,200 cu. yds.	19.00
Bridge approach, intake pier	550 " "	8.00
Excavation bdg approach, intk pr	500 " "	1.00
Masonry in pump pit	9,750 " "	9.90
Intake shaft	52 lin. ft.	32.00
Tunnel	1,430 " "	30.00
Setting seven sluice gates		280.00
12-in. stop-gate with water cylinder and piping		60.00
Six outside cast-iron gratings	15,000 lbs.	.04
6-in. and 12-in. cast-iron pipe	6,200 "	.06
In shaft and pump pit	13,600 "	.04
Brass ladders in wells & shaft	2,400 "	.20
C. I. and bronze bolts in guides.	8,150 "	.04
Iron clamps and dowels for mas	1,000 "	.08
I-beams*	6,000 "	.025
Steel shell diaphragm	250,000 "	.05
Setting accumulator	70 tons	2.00
Rolling excavated material	10,000 ton-miles	.15
Pump pit shaft, lower portion†	70.25 lin. ft.	47.00
" upper portion§	105,000 lbs.	.04
Girder bridge, etc.	31,000 "	.03
Fur. and setting stop-gates with hand-gear lump sum	2	36.00
2-in. brass pipe and fastenings.	9,000 lbs.	.19
Iron ladder in pump pit	900 "	.045
Setting 4 stop-gates in pump pit		160.00
Total		$440,699.25

*For support of accumulator and floor. †Top of caisson to bottom of sump. §Top of caisson to top of shell, steel.

The next lowest bid was that of the Globe Construction Co., of Cincinnati, O.; the others bidders were Griffith & McDermott, Chicago; T. A. Gillespie Co., Pittsburg, Pa.; McDonald & Thompson, St. Louis; Mason, Hoge & Co., Frankfort, Ky.; Henkel & Sullivan, Cincinnati; Keeling, Ridge & Kaufman, Pittsburg; Folz, Willard & Co., Cincinnati.

SEWERS.—St. Louis, Mo.—We are informed that the following bids were received April 29 for constructing sewers in Clarendon Ave., district No. 3; B. H. Colby, Sewer Comr.; all local bidders:

Bids Received at St. Louis, Mo., April 29, for Constructing Sewers in District No. 3.

Quantities.		Hill-O'Meara Construction Co.	Skrainka Construction Co.	H. Ruecking & Co.	McDonald & Thompson.	St. Louis Quarry Construction Co.	H. Wellman & Co.	R. I. Boyd Paving & Construction Co.	Black & Wycoff.	Abbott-Gamble Contracting Co.	John F. McMahon & Jos. F. Cooney.
Earth excavation	13,000 cu. yds.	$0.24	$0.22	$0.25	$0.28	$0.25	$0.25	$0.32	$0.27	$0.32	$0.25
Rock excavation	500 " "	3.50	3.00	3.00	3.00	4.00	1.50	3.00	3.50	3.00	2.00
Brick masonry	1,350 " "	5.45	5.25	5.40	5.80	5.75	5.90	5.40	5.75	6.00	5.25
Pipe laid: 12-in. vit.	3,000 lin. ft.	.50	.50	.53	.45	.55	.57	.55	.50	.65	.50
15-in. vitrified	4,140 " "	.71	.71	.64	.65	.60	.65	.69	.68	.70	.58
18-in. "	4,730 " "	.73	.73	.72	.70	.80	.80	.84	.85	.75	.70
21-in. "	960 " "	1.00	1.00	1.10	1.00	1.10	.98	1.30	1.20	1.25	.80
24-in. "	550 " "	1.48	1.48	1.45	1.30	1.40	1.35	1.85	1.60	1.50	1.15
30-in. "	360 " "	2.57	2.57	2.60	2.60	3.25	2.60	3.15	2.90	3.00	1.89
36-in. "	220 " "	3.13	3.13	3.15	3.25	3.00	2.87	4.30	3.35	3.75	2.39
Junctions	950 pieces.	.60	.60	.60	.85	.70	.45	.60	.60	1.25	.55
Inlet stones, 8 ins. thk	1,296 sq. ft.	.50	.50	.50	.55	.50	.50	.50	.50	.75	.50
Cast-iron	37,800 lbs.	.01¾	.01¾	.01¾	.02	.02	.02½	.01¾	.02	.02	.02
Wrought iron	4,700 "	.03	.03	.03	.03	.04	.03½	.03	.03	.04	.03
Vit. brick masonry	150 cu. yds.	9.00	9.00	9.00	9.75	9.00	8.90	9.00	9.00	11.00	8.75
Total		$26,878	$26,008	$26,538	$27,528	$28,194	$26,921	$29,146	$28,636	$30,839	$24,536

FOUNDATION STONE.—Cleveland, O.—Bids for the furnishing and placing of stone for the foundation of the extension of the east breakwater were opened April 27 by Col. Jared A. Smith. The specifications called for a maximum of 25,000 tons of rip-rap and 75,000 tons of filling stone, the government guaranteeing to use at least 85,000 tons of 2,000 lbs. each. Bids were requested for the two items separately and for the work as a whole. There were six bidders, of whom James B. Donnelly, Buffalo, N. Y., was the lowest, at 92 cts. a ton for the work as a whole. The next lowest bidder was the Kelley Island Lime & Transport Co. at 97½ cts.

DREDGING.—Milwaukee, Wis.—Local papers state that the contract for dredging for the season has been let by the board of public works to Adolph F. Bues, representing the C. H. Starke Dredge Co., at the following prices: Milwaukee River, 7 cts. a cu. yd.; Kinnickinnic River and Menomonee River, each, 6 cts. a cu. yd. This price is just half of that paid last year. It is estimated that there will be 100,000 yds. in the Milwaukee River and 50,000 yds. in the other two rivers.

BRICK PAVING.—Gloversville, N. Y.—We are informed that the following bids were received by the council April 26 for brick paving, as advertised in Engineering News; C. Fiske, Jr., Cy. Engr.:

Bids Received at Gloversville, N. Y., April 26, for Brick Paving.

Bidder.	Streets.	Brick: Park, a yd.	Mack, a yd.	Syracuse, a yd.	Concrete, a cu. yd.	Setting: Curb, a lin. ft.	Edging, lin. ft.
A. V. Purnell, Allegheny, Pa.	Bleecker	$2.00	$1.99½	$2.00	$4.50	$0.26	$0.25
	Church	2.00	1.99½	2.00	4.50	.26	.25
	No. Main	2.00	1.99½	2.00	4.50	.26	.25
Strain Bros., Amsterdam, N. Y.	Bleecker	....	2.03	....	4.50	.27	.27
	Church	....	2.03	....	4.50	.27	.27
	No. Main	....	2.14½	....	4.50	.27	.27
Callanan Road Imp. Co., Albany, N. Y.	Bleecker	2.08	2.08	2.08	4.50	.30	.30
	Church	2.08	2.08	2.08	4.50	.30	.30
	No. Main	2.13	2.13	2.13	4.00	.32	.32
Frank Pidgeon, Saugerties, N. Y.	Bleecker	2.10	2.10	2.10	5.50	.28	.28
	Church	2.10	2.10	2.10	5.50	.28	.28
	No. Main	2.12	2.12	2.12	5.50	.28	.28
A. S. Web, Syracuse, N. Y.	Bleecker	....	....	2.15	5.00	.30	.20
	Church	....	....	2.15	5.00	.30	.20
	No. Main	....	....	2.15	5.00	.30	.20
Baker, Banker & Co., Gloversville, N. Y.	Bleecker	2.20	2.19	2.14	5.00	.30	.30
	Church	2.20	2.19	2.14	5.00	.30	.30
	No. Main	2.20	2.19	2.14	5.00	.30	.30

ASPHALT PAVING.—Fort Wayne, Ind.—We are informed that the following bids were received April 25 for 42,000 sq. yds. of asphalt paving in various streets; F. M. Randall, Cy. Engr; Creighton Ave., 3,603 sq yds., 1,125 cu. yds. excavation, 2,543 ft. Berea curb, 12 limestone corners, 174 ft. plank walk, 100 ft. 12-in. pipe sewer, 50 ft. 10-in. sewer, 3 catchbasins, 3 inlets, 1,256½ ft. length of street, 24 ft. width: Barber Asphalt Paving Co., New York, bid was as follows: Sandstone curbing, a ft., $5.80, $7,288; The Columbia Construction Co., Toledo, O., $6, $7,539; The Alcatraz Co., San Francisco, $4.47, $5,617. Suttenfield St., 4,487 sq. yds., 2,385 ft. excavation, 3,203 ft. Berea curb, 16 limestone corners, 198 ft. plank, 384 ft. pipe sewer, 4 catchbasins, 2 inlets, 1 manhole, length of street, 1,570 ft., width 24 ft.: The Barber Asphalt Paving Co., $5.91; The Columbia Co., $6.16; The Alcatraz Co., $5.42; total $8,509. Woodland Ave., 6,193 sq. yds., 3,543 yds. excavation, 5,123 ft. Berea curb, 30 solid limestone corners, 335 ft. plank, 20 ft. 10-in. pipe sewer, 2 inlets, length of street 2,518 ft., width 20 ft.: Barber Co., $5.08; Columbia Co., $5.29; Alcatraz Co., $4.75. These bids are all per lin. ft. of street complete, based upon the quantities given for each street, and all were awarded to the Alcatraz Construction Co., Otto E. C. Guelich, Western Manager, 623 Hammond Bldg., Detroit, Mich. This pavement is guaranteed for 10 years. Besides the above the Alcatraz Co. was awarded the contract for 1,436 lin. ft. of paving in Harrison St., at $5.60, width, 24 ft.; and for 1,959 lin. ft. in Hoagland Ave. at $5.80, width, 24 ft. These streets will all have asphalt on 5-in. concrete, 1-in. binder and 2-in. surface; Berea curb, 5 × 22 ins.; solid limestone corners, 3 ft. radius; solid limestone corners, 2 ft. radius; 3 × 12-in. white oak plank; 15-in., 12-in. and 10-in. sewer pipe.

ASPHALT PAVING.—Fort Wayne, Ind.—We are informed that the Alcatraz Co., Hammond Bldg., Detroit, was awarded the contract April 25 for 17,974 sq. yds. of asphalt paving in Calhoun St., at $1.60 a sq. yd. It will have a 6-in. concrete foundation, 1½-in. binder and a 2-in. surface with double track on street.

MISCELLANEOUS CONTRACTS.

DAM.—Paris, Tex.—Bids are asked for the construction of an earth dam for an artificial lake. Walter C. Dean, Cy. Engr.

TELEPHONE SYSTEM.—Mason, Mich.—A franchise has been granted to the State Telephone Co. to operate an exchange in this place.

DREDGING.—Sabine Pass, Tex.—Bids are asked until May 26 for dredging at this place. Maj. James B. Quinn, U. S. Engr., New Orleans, La.

TELEPHONE SYSTEM.—Pekin, Ill.—Reports state that the Central Union Telephone Co. will improve its system throughout this place this summer.

FIRE HOSE.—New York, N. Y.—Bids are asked by the fire department until May 11 for furnishing about 43,500 ft. of 1½ to 3½-in. fire hose. John J. Scannell, Comr.

DRAINAGE CHANNEL.—Joliet, Ill.—Bids are soon to be asked by the drainage board for constructing section 18 of the drainage channel; estimated cost, about $350,000.

TELEPHONE SYSTEM.—Chattanooga, Tenn.—Reports state that E. W. Coleman, Columbia, has applied to the council for a franchise to construct a telephone system.

REPAIRING WHARF.—St. John, N. B.—The board of works has recommended repairing the North Rhodney wharf to cost about $2,700. Alderman Christie may be addressed.

STORM TUNNEL.—Cleveland, O.—Ford P. Beers has a contract to construct a storm overflow tunnel, 1,000 ft. long, with a diameter of 12 ft., from Lake Ave. and Detroit St. to Lake Erie.

TELEPHONE SYSTEM.—Minneapolis, Minn.—The Minnesota Central Telephone Co. has been granted a franchise by the council to operate a system. Charles Webster and David Jones, of Willmar, are interested.

POST-OFFICE SUPPLIES.—Washington, D. C.—Bids are asked by the post-office department, until May 5, for furnishing a quantity of wire, rivets, burrs, emery, steel, oils, etc., for the year ending July 1, 1899.

TELEPHONE SYSTEM.—Harrisburg, Pa.—The Pennsylvania Telephone Co. will construct and operate an underground telephone system, under the supervision of the city engineer and highway commissioner.

SURF BOATS.—Washington, D. C.—Bids are asked by the U. S. Life-Saving Service, until May 6, for constructing 15 23-ft. and six 26-ft. Monomoy surf boats. S. I. Kimball, Gen. Supt., 24 State St., New York.

RIVER WORK.—Chicago, Ill.—A contract has been awarded to Leyden & Drew, at $47,063, for widening the channel of the Chicago River at Diversey Ave., requiring the removal of about 278,000 cu. ft. of earth.

TELEPHONE SYSTEM.—Rochester, N. Y.—The council committee, Chairman Rauber, is considering the question of granting a franchise to the Automatic Telephone Co., Buffalo. The system will comprise about 5,000 telephones.

CABLES AND ACCESSORIES.—Allegheny, Pa.—Bids are asked by the department of public safety until May 9 for furnishing underground cables and accessories for the fire and police telegraph systems; bond of $10,000. J. R. Murphy, Dir.

DAM.—Helena, Mont.—Reports state that McNamara & Marlow are preparing to construct a dam across Big Sandy Creek, six miles below this place. It will contain 8,000 cu. yds. of material; length, 500 ft. D. P. Mumbrue, Engr., Helena.

PARK.—Indianapolis, Ind.—It is reported that about 100 acres of land will be purchased, bordering on North Meridian St., for a park. The following are interested: John P. Pearson, A. P. Hendrickson, M. B. Wilson, M. V. McGilliard and others.

DREDGING.—New York, N. Y.—Bids are asked by the department of docks, Pier A, North River, until May 13, for dredging at the foot of Barclay St. and of Park Place, North River; estimated amount, about 45,500 cu. yds. J. Sergeant Cram, Comr.

PONTOON WORK.—New York, N. Y.—Bids are asked by the department of buildings and supplies, 346 Broadway, until May 12, for repairing and constructing bridges, etc., for the free floating baths, and furnishing pumps, signal lamps, etc. Henry S. Kearny, Comr.

CANAL AND DAMS.—Boston, Mass.—A contract was awarded by the Electrolytic Marine Salts Co., Boston, Mass., April 22, to R. D. Shanahan, Portland, Me., for constructing two dams and a canal, as advertised in Engineering News. Geo. A. Merrill, Engr.

CANAL.—Annapolis, Md.—The Baltimore, Curtis Bay & Annapolis Canal & Navigation Co. has been incorporated by Elihu S. Riley, Pres.; Walter H. Cronin, Secy., to construct a canal 4½ miles long from the Severn River to Curtis Bay. E. Lacy Chinn, C. E., has been directed to prepare plans and estimates.

MACHINERY.—Bangalore, India.—Reports state that S. R. Best & Co., proprietors of the Universal Agency, Bangalore, India, desire to obtain illustrated catalogues with minute information, specifications, prices, etc., for electrical machinery, woodworking machinery, paper mills, corn mills, cigarette machinery.

FIRE ENGINES, TRUCKS, ETC.—New York, N. Y.—Bids are asked by the fire department until May 11 for supplying the following: Two fourth-size steam fire engines, with Amoskeag pumps and boilers; two third and two second size and one "dederick" 65-ft. hook and ladder trucks; two first size hose wagons; one champion Babcock and one hollow double tank chemical engines. John J. Scannell, Comr.

TENDERS AND PILE SINKERS.—St. Louis, Mo.—The following bids were received April 4 for furnishing four pile sinkers and three steam tenders, as advertised in Engineering News. Capt. H. E. Waterman, U. S. Engr., St. Louis:

Bidder.	Four pile sinkers, each.
*Cincinnati Marine Railway Co., Cincinnati	$1,684
Iowa Iron Works, Ltd., Dubuque	1,795
Ed. J. Howard, Jeffersonville, Ind	2,100

Bidder.	One tend'r, each.	Two tend'rs, each.	Three tend'rs, each.
*M. A. Sweeny Co.[1]	$7,949	$7,849	$7,748
Shook-Anderson Mfg. Co., Pittsburg	13,622	13,300	12,998
The Cincinnati Marine Railway Co.[2]	9,047	9,000	8,967
Ed. J. Howard, Jeffersonville, Ind.	8,455	8,455	8,455
Iowa Iron Works, Ltd., Dubuque, Ia.	8,950	8,725	8,650
Springfield Boiler & Mfg. Co.[3]	12,000	11,750	11,500
Craig Ship Bldg. Co., Toledo, O.	14,000	13,500	12,450

*Awarded contracts; [1]Jeffersonville, Ind.; [2]Cincinnati, O.; [3]Springfield, Ill.

ENGINEERING MATERIAL PRICES.

TRACK MATERIALS—

New York—Angle bars, 1.05 cts. to 1.10 cts.; spikes, 1.40 cts. to 1.50 cts.; track bolts, hexagonal, 1.80 cts. to 1.85 cts.; square, 1.60 cts. to 1.75 cts.

Chicago—Angle bars, 1.15 cts. to 1.25 cts.; spikes, 1.50 cts. to 1.60 cts.; track bolts, hexagonal, 1.90 cts. to 2.00 cts.; square, 1.80 to 1.90 cts.

RAILS, STEEL—

New York, new, $18.00 to $18.50; old iron, $12.00 to $12.50.

Chicago, new, $20.00 to $22.50; old iron, $11.50 to $12.00; steel, $8.00 to $8.50.

Pittsburg, new, $18.00 to $19.00; old iron, $12.50 to $13.50; steel, $10.25 to $10.50.

STRUCTURAL STEEL—

New York—Beams, 1.30 cts. to 1.35 cts.; channels, 1.30 cts. to 1.35 cts.; tees, 1.35 cts. to 1.40 cts.; angles, 1.15 cts. to 1.20 cts.; plates, 1.20 cts. to 1.25 cts.; rivets, iron, 2.25 cts. to 2.50 cts.; steel, 1.75 cts. to 1.85 cts.; universal mill plates, 1.15 cts. to 1.20 cts.; tank, 1.25 cts. to 1.30 cts.; shell, 1.30 cts. to 1.40 cts.; flange, 1.60 cts. to 1.75 cts.; firebox, 2.25 cts. to 2.50 cts.

Chicago—Beams, 1.30 cts. to 1.45 cts.; channels, 1.30 cts. to 1.45 cts.; tees, 1.35 cts. to 1.50 cts.; angles, 1.20 cts. to 1.30 cts.; universal mill plates, 1.25 cts. to 1.30 cts.; tank, 1.10 cts. to 1.20 cts.; shell, 1.45 cts. to 1.55 cts.; flange, 1.20 cts. to 1.40 cts.; firebox, 1.70 cts. to 2.00 cts.

Pittsburg—Beams, 1.15 cts. to 1.25 cts.; channels, 1.15 cts. to 1.25 cts.; tees, 1.15 cts. to 1.20 cts.; angles, 1.00 ct. to 1.15 cts.; universal mill plates, 1.05 cts. to 1.15 cts.; tank, 1.00 ct. to 1.10 cts.; shell, 1.15 cts flange, 1.10 cts. to 1.20 cts.; firebox, 1.50 cts. to 2.75 cts.

MERCHANT STEEL—

Machinery, per lb., 1.60 cts. to 1.65 cts.
Cast, best in small lots, per lb., 5.50 cts. to 7 cts.
Sheet, per lb., 8.5 cts.

IRON—

Pig Iron:

New York, No. 1, $11.00 to $11.50; No. 2, $10.50 to $11.00.
Chicago, No. 1, $11.50 to $12.50; No. 2, $11.00 to $12.00.
Pittsburg, No. 1, $10.40 to $10.50; No. 2, $9.90 to $10.00.

Bar Iron:

New York, common, 1.07½ cts. to 1.10 cts.; refined, 1.15 cts. to 1.20 cts.
Chicago, common, 1.05 cts. to 1.15 cts.; refined 1.10 cts. to 1.20 cts.

Sheets:

American, per lb., 4 cts. to 4½ cts.
Russia, per lb., 10½ cts. to 11½ cts.

LUMBER—

New York:

Hemlock timber, 20 ft. and under, per M, $12.00 to $12.50.
Piling, Eastern spruce, 35 to 40 ft., 30 to 40% 12-in. butts, 4¼ cts. to 4½ cts.
Spruce, special cargoes, per M, $15.00 to $17.50.
Yellow pine, random cargoes, $14.50 to $17.00.
North Carolina pine, $2.25 to $2.40 advance over Norfolk rates.

San Francisco:

Oregon pine, per M, $15.50 to $17.50.
Redwood, per M, $17.00 to $19.00.
Redwood tank stock, up to 10 ft., $21.00 to $24.00.

GENERAL MATERIALS—

Lead, New York, 3.50 cts. to 3.60 cts.
Nails, Pittsburg, 1.40 cts.
Solder, per lb., 9 cts. to 11½ cts.
Spelter, per lb., 3.90 cts. to 4.25 cts.
Copper, ingots, 11.58 cts. to 12.00 cts.
Granite, rough, New York, cu. ft., 40 cts. to 50 cts.
Limestone, New York, cu. ft., 70 cts. to 80 cts.
Ohio freestone, New York, cu. ft., 85 cts. to 90 cts.
Slate, Penn. block, per square, $4.00 to $5.00.
White lead, American, per lb., 5½ cts. to 6 cts.
Lime, common state, per bbl., 70 cts.

INDUSTRIAL NOTES.

MAIRS & LEWIS, general contractors, have removed their offices from the Wells Bldg., 18 Broadway, to the Hudson Bldg., 32 Broadway, New York.

THE PETERSBURG IRON WORKS CO., Petersburg, Va., received a contract, April 28, for furnishing 1,400 water meter boxes to the city of Richmond, Va., according to report.

THE UNION CAR CO., Depew, N. Y., is reported to have a contract from the Lehigh Valley R. R. for 250 box cars, in addition to 1,250 already under construction for that company.

POST & McCORD, contractors for steel and iron construction, have removed their main offices from 289 Fourth Ave., New York, to their works at Clay St. and Paidge Ave., Brooklyn.

THE E. P. ALLIS CO., Milwaukee, Wis., is reported to have the contract to build four power engines of an aggregate capacity of 7,000 HP. for the Milwaukee Electric Ry. & Light Co.

MR. CHAS. W. HALL, New York agent for the Steel Portland Cement, manufactured by the Illinois Steel Co., Chicago, has removed his office from 27 William St. to the Havemeyer Bldg., 26 Cortlandt St.

THE ALCATRAZ CO., San Francisco, Cal., manufacturers of Alcatraz asphalt reservoir cement, has removed its general Eastern offices from 57 East 59th St. to the Bancroft Bldg., 3 West 29th St., New York.

THE AMERICAN MOTOR CO., has removed its offices from 116 Havemeyer Bldg., 26 Cortlandt St., to the Hudson Bldg., 32 Broadway, New York. Mr. Albert T. Otto, of the firm of Blount & Otto, gas engine manufacturers, at the same address, is the President of the company.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, is reported to have the contract to build a six-wheel passengen locomotive for an English railway recently built from Barnstable to Linton. It is said that this is the first locomotive to be built in America for use on an English railway.

THE THOMSON METER CO., 79 to 83 Washington St., Brooklyn, N. Y., reports the sale of 12,004 meters in the past eight months. April 24, 1898, meter No. 112,004 was sold and stamped; this is an average of over 1,500 a month. Of 5,393 meters in use in Detroit, up to 1898, no less than 5,146 are said to be of the Thomson type.

THE A. & P. ROBERTS CO., Philadelphia, at a meeting held April 26, elected the following officers: President, Mr. Percival Roberts, Jr.; First Vice-President, Mr. P. W. Roberts; Second Vice-President, Mr. Frederick Snare, and Secretary and Treasurer, Mr. J. W. Davis. The change is due to the recent death of Mr. Percival Roberts, Sr., noted in our issue of April 7. Mr. Snare's headquarters will be at 100 Broadway, New York, as heretofore.

THE WESTERN CAMERA CO., 135 Wabash Ave., Chicago, has introduced a new type of camera known as the "Cyclone Magazine," the special feature being that it will take 12 pictures in 12 seconds on glass plates without reloading. The company manufactures nine different styles of cameras, and during 1897, over 38,000 "Cyclone" cameras were manufactured and sold by it. A full line of photographic supplies, including the other leading makes of cameras, is carried in stock.

THE WEBER GAS & GASOLINE ENGINE CO., Kansas City, Mo., reports the following sales of gasoline hoisting engines during the week ending April 23: One 10-HP. single drum geared engine, Cornucopia Mines of Oregon; one 25-HP. double drum geared engine, to be used underground, hoisting from slope, La Aurifera Mine, Monterey, Mex.; one 10-HP. single drum geared engine, Boise City, Idaho, and one 10-HP. single drum geared engine, Denver, Colo. It also shipped to the Copper Queen Mining Co., Globe, Ariz., one 10-HP. single drum geared gasoline hoisting engine.

THE NEW YORK FINANCE & CONSTRUCTION CO., 141 Broadway, New York, contractors for electric, steam and hydraulic plants, is constructing a hydraulic and steam plant at Fort Hancock, Sandy Hook, N. J., for the United States government, and has also on hand the following contracts for the government, for which the company desires machinery: The steam and electric plant, Fort Washington, Md.; the engine installation and lighting plant, Plum Island fortifications, Long Island Sound, and the complete generating and piping installation in the post office, Pittsburg, Pa.

THE WESTINGHOUSE ELECTRIC & MFG. CO., Pittsburg, has installed over 100,000 HP. of polyphase generators within the past three years, ranging in size from 10 to 5,000 HP. each. Judging from the orders at present on hand, the company will build more than 100,000 HP. of this type alone during the coming year. A single order now on hand calls for 75,000 HP. Polyphase motors have also been made, ranging from 1 to 500 HP., two of the latter being for the Niagara Falls Electric Light & Power Co., to be utilized for driving the dynamos which light the town; power being supplied by 5,000-HP. Westinghouse Niagara generators.

THE FILER & STOWELL CO., Milwaukee, Wis., advises our representative that it is busy at present in all departments, and among other contracts on hand has the following: An 800-HP. tandem engine direct-connected to generators, Bluff City St. Ry. Co.; an 800-HP. engine, Warren, Pa., Electric Light Co.; a 500-HP. cross-compound engines, Kimberly-Clark Co., Neenah, Wis., this being the fourth engine purchased from the company; two 20 × 42-in. single cylinder engines, Worcester (Mass.) & Clinton St. Ry. Co.; a 24 × 48-in. single cylinder engine, Home Electric Co., Baton Rouge, La.; a three-stage vertical gas compressor, W. J. Lemp Brewing Co., St. Louis, Mo.; and a three-stage compressor, Liquid Carbonic Acid Mfg. Co., New York, in which the gas is to be compressed to 1,500 lbs. pressure.

THE NAZARETH PORTLAND CEMENT CO., Nazareth, Pa., has been incorporated with $300,000 authorized capital. Seven 60-ft. rotary kilns will be installed, together with a 700-HP. engine, a battery of vertical boilers, in which the waste heat from the kiln stacks will be utilized, and a full complement of approved crushing, grinding, drying and pulverizing machinery. The property comprises 170 acres of cement rock and limestone, the deposit lying midway between the Atlas and the Alpha works is said to be practicably inexhaustible, and exceptionally fine for the manufacture of the modern high-limed Portland cement. The output will be about 1,300 bbls. a day. The officers of the company are: President, Jas. P. Barnes; Vice-President and Gen. Mgr., Irving A. Bachman; Secretary and Treasurer, Edgar T. Belden.

THE KENWOOD BRIDGE CO., First National Bank Bldg., Chicago, has recently designed and completed 253 trusses, with the necessary beams, columns, etc., for the W. B. Conkey Printing Co.'s new building, Hammond, Ind., a total of 400 tons, in 48 days; Mr. Geo. C. Nimmons, Chicago, is the architect. The company has also the contract for furnishing all the structural steel work for the new train shed of the Chicago, Burlington & Quincy Ry. station, Omaha, Neb. It also furnished the steel work for the station proper, and built a 110-ft. viaduct connecting the station with the 10th St. viaduct. Contracts are now being executed for a number of water-works towers, a 100-ft. span arch for the Notre Dame University, South Bend, Ind., and several factory buildings. The company makes a specialty of structural work for power houses, factories, viaducts, bridges, etc. Mr. F. W. Barker is the President and Mr. Paul Willis the Secretary and Treasurer.

THE SPRAGUE ELECTRIC CO. has its works at 527 West 34th St., New York, running day and night on contracts for interior conduit and Lundell power motors for the U. S. government. The interior conduits made by the company is the government standard, and is used not only on a number of warships and cruisers, but on many of the improvised vessels recently called into service for scouts, torpedo boats and coast defenders. The yacht "Corsair," taken by the government for use as a torpedo destroyer, has been commented on as a model in every respect. A complete outfit of the Sprague interior conduit and Lundell direct-connected generating motors is a part of its equipment.——The South Side Elevated R. R. of Chicago, a steam line operating 16 miles of track, on April 30, placed in operation the Sprague multiple-unit system. The change from steam to electricity is going on rapidly and the whole road will soon be operated by this system, which differs from others in that the locomotive is abandoned and each car is equipped with motors and the multiple-unit control. The cars are combined in trains of any length, and are run from either end of any car. This is the system which was recently adopted on the Brooklyn Elevated R. R.

NEW COMPANIES.—Black Diamond Copper Mining Co., New York; $2,000,000, commencing with $2,500; James A. McBain and N. O. Bagge, New York; C. J. Faulkner, Martinsburg, W. Va.; John T. Deime and William P. Kellogg, of Washington, D. C.

Bates Arms & Engine Co., Camden, N. J.; $160,000, commencing with $1,000; to manufacture and sell firearms and all kinds of machinery; Francis B. Gates and Allen W. Twining, Philadelphia; John W. Wescott, Haddonfield, N. J.

National Sanitary Drainage Co., Washington, D. C.; $1,000,000, commencing with $100; to manufacture and deal in patent articles for scientific sewerage and drainage; S. M. Bryan, O. G. McCall, H. W. McCorry, V. A. Hubbard and Wm. P. Marsh, Washington.

American Automatic Loom Co., New York; $5,000,000, commencing with $3,500; to deal in coal and operate railways to carry on said business; Symington Macdonald Cincinnati, O.; F. N. Scarborough, Hinton, W. Va.; Samuel Dixon, Macdonald, W. Va.

Longacre Colliery Co., Longacre, W. Va.; $100,000, commencing with $100; to manufacture and deal in loom and weighing machinery; G. D. Robertson, O. H. La Grange, J. H. Emery, L. A. La Grange and William and John Faulkner, Mount Carbon, W. Va.; C. G. Blake, Thorp, New York.

Delaware River Construction Co., New York; $10,000; to do general construction work; F. S. Little and Herbert R. Smith, of Brooklyn, N. Y.; Louis H. Smith, A. E. Lothbridge and A. A. Smith, New York.

Burlee Dry Dock Co., New York; $300,000; William J. Burlee, of Port Richmond (S. I.), N. Y.; William J. Davidson, West New Brighton, N. Y.; J. T. O'Donnell, Brooklyn, N. Y.

Buehne Steel Wool Co., New York; $5,000; Friedrich Wilhelm Buehne, Freiburg, Baden, Germany, and Constantine Pilz and Paul C. Schnitzler, New York.

Betts Construction Co., of Brooklyn, N. Y.; $15,000; to deal in real estate; Katherine C. Bills, Loula W. Betts; Dewitt Bailey and Roger Lee, of Brooklyn; Percy C. Stuart, of New York.

Standard Seating & Radiator Co., Pittsburg, Pa.; Dennis Hayes, Avalon, Pa.; Alexander M. Carson and John C. Beckfield, Pittsburg; William F. Neely, Allegheny, Pa.; John M. Curry, Ingram, Pa.

Suburban Improvement & Construction Co., of Newark, N. J.; $50,000; George H. Lambert, Charles H. Stewart and Francis B. Stewart, of Newark.

National Car Truck Co., Port Byron, N. Y.; $25,000, commencing with $14,000; to manufacture and sell car and car trucks; T. F. Dixon, R. Warren, W. Blake, C. Thompson, E. M. Slayton, L. H. King, O. B. Tanner, J A. Topliffe and T M. Crane, of Port Byron.

Viellard & Osswald Co., Brooklyn, N. Y.; $50,000; to manufacture presses, dies and machinery for making sheet metal goods; Celestin F. Viellard, of Woodhaven, N. Y.; Herman Oswald, 706 Jamaica Ave., Brooklyn; Thomas B. Innes, New York.

Westfield Realty & Construction Co., a branch of the Midland R. R. Co., Stapleton (S. I.), N. Y.; $300,000, commencing with $100,000; to erect dwellings, factories, power houses, car barns, locks, railways, tramways and electric railways; W. B. Rockwell, M. J. Wightman, J. C. Hinchliffe, F. E. Bradley, C. M. Robinson, C. C. Ellis and M. C. Quimby.

Trembley & Hammond Building Co., Chicago., Ill.; $2,500; to do a general contracting business; Z. T. Trembley, Robert Hammond, R. A. Naters.

William Ferguson Foundry Co., Chicago., Ill.; $25,000; William Ferguson, Paul W. Lange and Fred B. Vogel.

Illinois Portland Cement Paving Co., Chicago, Ill.; $1,000; A. F. Melter, E. T. Martin and H. L. Hanley.

Columbia Heater Mfg. Co., Minneapolis, Minn.; $20,000; Peter Monson, G. V. Smith, Charles E. Veeder, C. L. Fuller, E. H. Mathes, all of Minneapolis.

Boca Grande Investment Co., Charleston, W. Va.; $5,000,000, commencing with $500; to construct railways, mills, etc.; H. M. Thompson, J. B. McKewan, Thos R. Knox, Geo. W. Smith and D. S. Gregory, all of New York.

Construction Co. General, Camden, N. J.; $100,000, commencing with $1,000; to conduct a general engineering, contracting and manufacturing business; John P. Logan, Henry M. Seiple, C. Jesse Young and Aubrey H. Gillingham, all of Philadelphia, Pa.

Alaskan & Canadian Ry. & Navigation Co., Washington, D. C.; $2,500,000, commencing with $50; to operate railways, wharves, docks, etc., and to improve rivers, etc.; J. C. Chaney, Wm S. Odell, Daniel McConville and Byron G. Daniels, Washington.

American Tool Works Co., Cincinnati, O.; $1,000,000, commencing with $10,000; to manufacture and deal in machine tools, iron, brass and steel working machinery; Charles Davis, T. P. Egan, R. Laidlaw, B. B. Quillen and Thomas McDougall, all of Cincinnati.

International Engine Co., Charleston, W. Va.; $200,000, commencing with $1,500; to manufacture and deal in momentum energizer engines, etc. H. W. Sharpless, C. P. Ruckdeschel, F. W. Boyle, G. E. Coolidge and Wm. J. Wilson, all of Philadelphia, Pa.

Jobson Mfg. Co., Charleston, W. Va.; $1 000,000 commencing with $60; to manufacture and sell all kinds of nuts and bolts, etc.; J. C. Matheny, J. Q. Barker, William Bragger, J. W. Malcolm and W. C. Barker, all of Charleston.

Lovejoy Car Lighting Co., Chicago, Ill.; $2,000,000, commencing with $50; to manufacture and sell machinery for the manufacture of gas for heating and illuminating purposes, etc.; Wm. S. Hine, J. B. Wallace, E. L. Barr, J. F. Leake and J. C. F. Bradley, all of Chicago.

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